



# Model World

Portfolio modeling leverages data to pull back the veil on what the future of multifamily could hold.

**J**effrey Roper, principal scientist at multifamily software firm RealPage's MP/F YieldStar division, found the projections emerging from a new forecasting model he'd been developing puzzling. Designed to anticipate changes in specific markets, the model indicated last spring that rent pricing in Charlotte, N.C., was about to soften. Owners and managers in Charlotte had routinely pushed their rents by 3 percent to 4 percent annually, but Roper's model suddenly said revenue growth in the area would slow to a mere 1.5 percent. This was despite the fact that metrics such as occupancy rates and employment had remained relatively consistent. "They had great fundamentals, but the model kept projecting weakness," Roper says. "It kept telling us Charlotte was going soft."

Sure enough, by the summer, the warning became a full-fledged alarm. As headquarters to both Wachovia and Bank of America, Charlotte's job market is closely linked to its financial sector—a factor that figures heavily into apartment demand for any region. By June, Charlotte's financial services job growth was crawling along at an anemic 0.3 percent, down from 1.6 percent just six months earlier. Then in July, the Queen City awoke to news that Wachovia would cut 6,300 jobs. While many of those cuts were slated for the bank's California subsidiary, Roper saw the announcement—paired with the softer pricing from his

model—as a reflection of overall sentiment in the marketplace.

So how did Roper's model pick up on that sentiment, despite the strength of macro fundamentals? By looking at a second set of data points—daily traffic, lease closing rates, and pricing levels at Charlotte properties. By tracking property management numbers recorded by the broader base of RealPage and MP/F YieldStar clients in the Charlotte market, it picked up on what potential renters were actually thinking and doing, rather than relying on broader fundamentals. After mixing the two, the software projected the recent pull back.

"We know exactly how many people are out there milling around looking at apartments; we know exactly what our closure rates are; and we know exactly at what price those prospects are saying, 'Yes, I'm willing to go ahead and commit,'" Roper says. "That's how we saw the weakness that was trying to manifest itself."

## SUBTLE SENSITIVITY

Granted, market forecasting and portfolio modeling have been used for years to predict how specific properties in a portfolio might behave given projected economic conditions. But what's compelling about Roper's early signal in Charlotte—and other emerging modeling technologies—is the sensitivity these tools are starting to show based on user data culled from signed contracts at specific price points in actual leasing offices. Firms such as Houston-based Argus Software; Santa Barbara, Calif.-based Yardi Systems; Cleveland, Ohio-based Intuit Real Estate Solutions; and Redwood Shores, Calif.-based Oracle, with its Hyperion unit, all offer modeling tools that claim to depict how assets should perform under various economic conditions. For its part, RealPage's modeling and forecasting capabilities, which include the ability to track a property's relative performance against peers and competitors in a given market, is based on actual operational data.

Now, with the prevalence of broad management software suites, real-time data can be fed directly into forecasting and modeling tools. And users say they get extremely accurate glimpses of future trends—not only for their own portfolios but for entire markets. Mixing macroeconomic employment and population figures with at-the-unit numbers ranging from oc-

occupancy and rent growth to turnover rates, executives say they can play out multiple "what-if" scenarios to help make operational, acquisition, and disposition decisions. In some cases, such as at RealPage, updated macro-economic data is fed into these systems by the software providers themselves, while other tools allow operators to input assumptions in classification fields. Take Aliso Viejo, Calif.-based Shea Properties, which owns and manages approximately 8,000 apartments in California and Colorado. Using Argus Asset Management to run different investment scenarios, senior vice president of finance Lee Pacheco input Shea's own historical operating data—drawn from its Argus budget tool and Yardi property management system—to model the potential return of three acquisition targets in Orange County and San Diego.

Applying Shea's historical lease renewal and rent growth rates to the model, Pacheco found that he could boost the assets' return from their mid-teen levels to more than 20 percent simply by applying Shea's performance metrics from other assets it owned in that market to the target properties. The previous owner had grown rents by only 1 percent per year, but Shea was boosting rents by 3 percent to 5 percent at its other properties. When Shea finally bought the Orange County and San Diego properties and started operating them, the firm was able to accomplish the same thing.

"We were able to take our model and extrapolate the data we had internally so that we really knew the value we would experience ... by applying our own management practices," Pacheco says.

## AGGREGATE APPROACH

For Pacheco, one key in the process was the accuracy of operating data at Shea's other properties in the market, mixed with macro-economic indicators. It's an accuracy that represents a giant leap beyond what was possible even a few years ago. "The technology is starting to have these huge impacts because there's now better, cleaner, more concise information from all these users" of the software systems, says Barry Tuman, a managing director at Argus who's been working with modeling software for three decades. "When I started out in the late 1970s, we could only dream about the things we're starting

to do now. The next step is to think about the market in aggregate, and then plan for these what-ifs." For instance, users can enter macro-economic assumptions into the various classification fields of Argus's Asset Management tool, while querying the system for actual operations numbers for different assets, or different regions.

RealPage's Roper certainly understands that concept. Previewing two yet-to-be-released products this summer, he demonstrated how users might be able to pull aggregate data from all of RealPage's users nationwide, devoid of asset-specific identification characteristics, to display relative performance of individual properties or entire portfolios. Since the data will be pulled from existing systems, the numbers aren't just accurate; they're actual. And they will be displayed in near real-time. "The question has always been, 'How am I doing relative to the outside world? Am I doing worse, am I doing better, or am I holding my own?'" Roper said at the time. "Until now, we've only had these clunky kinds of numbers to try to answer it."

## THE HUMAN TOUCH

Yet, for all the high-powered analysis software emerging in multifamily today, some firms still rely on tried-and-true, pen-and-paper methods, using hard-earned institutional instinct to play the market.

Take Denver-based REIT UDR, which didn't employ any advanced modeling tools to close its \$1.7 billion sale of 86 communities to New York City-based DRA

Fund earlier this year. Matt Akin, UDR's senior vice president of acquisition and disposition, says the firm compared its rents, which varied dramatically by market, to maintenance and operating costs, which were fairly uniform across its portfolio. "Obviously, if you're maintaining roofs or replacing exterior finishes on properties that have a \$600-per-unit rent versus a \$1,200-per-unit rent, the impact on your cash flow is greater," Akin says.

Now building UDR's portfolio in high-barrier markets such as Washington, D.C., Akin says the deal was based on fundamentals, not modeling. "We just looked at rent per unit and operating margins, along with job growth and supply projections, in each market," he says.

Still, as one of the premier apartment REITs in the country, UDR can afford to rely on its institutional instinct and aggregated professional knowledge. Other firms are only too happy to reach for a technological leg up. "It doesn't matter how much experience you have, or how much you've done this before—you just can't do this stuff in your head," says Dan Bernstein, chief investment officer at Campus Apartments, a Philadelphia-based owner of 17,000 beds that has spent years developing a proprietary system to look at acquisition and disposition opportunities. "Using the model, and the technology that's out there today, helps you visualize your investment." [M]

*Joe Bousquin is a freelance writer living outside of Sacramento, Calif.*

## MODELING MUSTS

Leverage these three areas to make the most of portfolio modeling.

- 1 Use what you know. While modeling technologies are advancing, human knowledge is irreplaceable. Before running the numbers, compare industry basics such as performance fundamentals against the general state of the multifamily market and wider economy.
- 2 Use what you have. After you identify a property, mine your internal operating numbers and apply them to the acquisition target. This identifies weak points and determines the return you should be able to achieve by applying your own management practices.
- 3 Use what you want. Set return targets for each property, and then determine when you will hit them. If it makes more sense to focus on individual assets in your portfolio, stagger your disposition timelines to maximize returns. Also, run scenarios through your models to see different outcomes.

ACTION ITEMS