

IN THE UNITED STATES DISTRICT COURT  
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA

UNITED STATES OF AMERICA  
U.S. Department of Justice  
950 Pennsylvania Avenue NW  
Washington, DC 20530

STATE OF NORTH CAROLINA  
114 W. Edenton Street  
Raleigh, NC 27603

STATE OF CALIFORNIA  
300 South Spring Street, Suite 1702  
Los Angeles, CA 90013

STATE OF COLORADO  
1300 Broadway, 7th Floor  
Denver, CO 80203

STATE OF CONNECTICUT  
165 Capitol Avenue  
Hartford, CT 06106

STATE OF MINNESOTA  
445 Minnesota Street  
St. Paul, MN 55101

STATE OF OREGON  
100 SW Market St  
Portland, OR 97201

STATE OF TENNESSEE  
P.O. Box 20207  
Nashville, TN 37202

and

**Case No. 1:24-cv-00710**

STATE OF WASHINGTON  
800 Fifth Avenue, Suite 2000  
Seattle, WA 98104-3188,

*Plaintiffs,*

v.

REALPAGE, INC.  
2201 Lakeside Blvd.  
Richardson, TX 75082,

*Defendant.*

**COMPLAINT**

**Table of Contents**

- I. Introduction ..... 1
- II. RealPage’s Revenue Management Software Is Fueled by Nonpublic, Competitively Sensitive Information Shared By Landlords ..... 6
  - A. Landlords Agree to Share Nonpublic, Competitively Sensitive Transactional Data with RealPage for Use in Generating Competitors’ Pricing Recommendations..... 7
  - B. AIRM and YieldStar Users Agree with RealPage to Use the Software to Align Pricing ..... 11
  - C. RealPage’s Transactional Data Is Fundamentally Different from Other Data Available to Landlords ..... 13
  - D. RealPage Revenue Management Software Uses Nonpublic, Competitively Sensitive Data to Recommend Prices..... 15
    - 1. AIRM and YieldStar Leverage Competitively Sensitive Data to Generate Price Recommendations ..... 15
      - a) AIRM model training relies on competitively sensitive data to generate learned parameters. .... 16
      - b) AIRM and YieldStar incorporate competitors’ nonpublic data to generate floor plan price recommendations. .... 16
      - c) AIRM and YieldStar use competitors’ nonpublic data—including data on future occupancy—to determine unit-level prices. .... 20
    - 2. LRO Relies Primarily on Landlords to Input Data on Competitors ..... 22
  - E. RealPage Uses Multiple Mechanisms to Increase Compliance with Price Recommendations ..... 23
    - 1. AIRM and YieldStar Make it Easy to Accept Recommendations and More Difficult and Time-Consuming to Decline ..... 23
    - 2. RealPage Pushes Clients to Adopt Auto-Accept Settings That Automatically Approve Recommendations ..... 25
    - 3. RealPage Pricing Advisors Provide a “Check and Balance” on Property Managers to Increase Acceptance of Recommendations.. 26
    - 4. Pricing Recommendations Heavily Influence Landlords’ Behavior ..... 27
- III. Coordination Among Competing Landlords Is a Feature of this Industry..... 28

A.	Rental Housing is a Necessity for Millions of Americans .....	29
B.	The Multifamily Property Industry is Rife with Cooperation Among Ostensible Competitors .....	29
1.	At the Local Level, the Multifamily Property Industry Comprises a Small Number of Large Landlords Managing Buildings with Different Owners.....	30
2.	Landlords Regularly Discuss Competitively Sensitive Topics with Their Competitors and Swap Information .....	31
3.	At RealPage User Group Meetings, Landlords Discuss Competitively Sensitive Topics .....	35
C.	RealPage Uses Nonpublic Information to Allow Landlords to More Easily Compare Units on an Apples-to-Apples Basis.....	40
IV.	RealPage Harms the Competitive Process and Renters By Entering Into Unlawful Agreements With Landlords to Share and Exploit Competitively Sensitive Data.....	40
A.	AIRM and YieldStar Have the Purpose and Effect of Distorting the Competitive Pricing of Apartments.....	41
B.	AIRM and YieldStar Impose Multiple Guardrails Intended to Artificially Keep Prices High or Minimize Price Decreases .....	49
C.	AIRM and YieldStar Harm the Competitive Process by Discouraging the Use of Discounts and Price Negotiations.....	53
D.	AIRM and YieldStar Increase and Maintain Landlords’ Pricing Power by Using Competitors’ Data to Manage Lease Expirations.....	54
E.	No Procompetitive Benefit Justifies, Much Less Outweighs, RealPage’s Use of Competitively Sensitive Data to Align Competing Landlords.....	56
V.	RealPage Uses Landlords’ Competitively Sensitive Data To Maintain Its Monopoly And Exclude Commercial Revenue Management Software Competitors .....	56
A.	Landlords Are Drawn to RealPage Because of Access to Nonpublic Transactional Data That Is Used to Increase Landlords’ Revenue.....	57
B.	RealPage’s Collection and Use of Competitively Sensitive Data Excludes Competition in Commercial Revenue Management Software....	59
VI.	Relevant Markets.....	62
A.	Conventional Multifamily Rental Housing Markets.....	62
1.	Product Markets .....	62

a)	Conventional Multifamily Rentals Are Distinct From Other Types of Multifamily Housing.....	62
b)	Single-Family Housing Is Not A Reasonable Substitute to Multifamily Rentals .....	64
c)	Conventional Multifamily Rental Units With Different Bedroom Counts Are Relevant Product Markets.....	66
2.	Geographic Markets .....	69
a)	RealPage-Defined Submarkets Identify Relevant Geographic Markets .....	71
b)	Core-Based Statistical Areas (CBSAs) Are Relevant Geographic Markets .....	73
B.	Commercial Revenue Management Software Market .....	76
1.	Product Market .....	77
2.	Geographic Market.....	78
VII.	Jurisdiction, Venue, and Commerce.....	79
VIII.	Violations Alleged.....	81
IX.	Request for Relief.....	87
	Appendix A: Submarkets .....	98
	Appendix B: Submarkets By Bedroom Count .....	102

## I. INTRODUCTION

1. Renters are entitled to the benefits of vigorous competition among landlords. In prosperous times, that competition should limit rent hikes; in harder times, competition should bring down rent, making housing more affordable. RealPage has built a business out of frustrating the natural forces of competition. In its own words, “a rising tide raises all ships.” This is more than a marketing mantra. RealPage sells software to landlords that collects nonpublic information from competing landlords and uses that combined information to make pricing recommendations. In its own words, RealPage *“helps curb [landlords’] instincts to respond to down-market conditions by either dramatically lowering price* or by holding price when they are losing velocity and/or occupancy. . . . *Our tool [] ensures that [landlords] are driving every possible opportunity to increase price even in the most downward trending or unexpected conditions”* (emphases added).

2. In fact, as RealPage’s Vice President of Revenue Management Advisory Services described, *“there is greater good in everybody succeeding versus essentially trying to compete against one another* in a way that actually keeps the entire industry down” (emphasis added). As he put it, if enough landlords used RealPage’s software, they would *“likely move in unison versus against each other”* (emphasis added). To RealPage, the “greater good” is served by ensuring that otherwise competing landlords rob Americans of the fruits of competition—lower rental prices, better leasing terms,

more concessions. At the same time, the landlords enjoy the benefits of coordinated pricing among competitors.

3. RealPage replaces competition with coordination. It substitutes unity for rivalry. It subverts competition and the competitive process. It does so openly and directly—and American renters are left paying the price.

\*\*\*\*\*

4. Americans spend more money on housing than any other expense. On average, American households allocate more than one-third of their monthly income to housing. Some purchase a home, while others choose to, or must, rent. A family's selection of an apartment reflects a complex set of values and criteria including comfort, safety, access to schools, convenience, and critically, affordability. To ensure they secure the greatest value for their needs, renters rely on robust and fierce competition between landlords.

5. RealPage distorts that competition. Across America, RealPage sells landlords commercial revenue management software. RealPage develops, markets, and sells this software to enable landlords to sidestep vigorous competition to win renters' business. Landlords, who would otherwise be competing with each other, submit on a daily basis their competitively sensitive information to RealPage. This nonpublic, material, and granular rental data includes, among other information, a landlord's rental prices from executed leases, lease terms, and future occupancy. RealPage collects a broad swath of such data from competing landlords, combines it, and feeds it to an algorithm.

6. Based on this process and algorithm, RealPage provides daily, near real-time pricing “recommendations” back to competing landlords. These recommendations are based on the sensitive information of their rivals. But these are more than just “recommendations.” Because, in its own words, a “rising tide raises all ships,” RealPage monitors compliance by landlords to its recommendations. RealPage also reviews and weighs in on landlords’ other policies, including trying to—and often succeeding in—ending renter-friendly concessions (like a free month’s rent or waived fees) to attract or retain renters. A significant number of landlords then effectively agree to outsource their pricing function to RealPage with auto acceptance or other settings such that RealPage as a middleman, and not the free market, determines the price that a renter will pay. Competing landlords choose to share their information with RealPage to “eliminate the guessing game” about what their competitors are doing and ultimately take instructions from RealPage on how to make business decisions to “optimize”—or in reality, maximize—rents.

7. Each landlord pays steep fees to license RealPage’s software. RealPage’s stated goals and value proposition are not a secret. Its executives are blunt: They want landlords to “avoid the race to the bottom in down markets.” Sometimes RealPage is even more direct, acknowledging that its software is aimed at “driving every possible opportunity to increase price” or observing that among landlords, “there is a greater good in everybody succeeding versus essentially trying to compete against one another in a way that actually keeps the entire industry down.”



8. But that is not how the free market works. A free market requires that landlords compete on the merits, not coordinate pricing. Landlords should win renters by offering whatever combination of price and quality they think is most attractive. For example, landlords could lower rents or provide other financial concessions, like free months of rent, or with investments in amenities like gyms, grilling areas, or pools. Put differently, the fear of losing a renter to a competitor should motivate rival landlords to compete vigorously.

9. RealPage's revenue management software ingests on a daily basis nonpublic rental rates, future apartment availability, and changes in competitors' rates and occupancy. As competitor-landlords increase their rents, RealPage's software nudges other competing landlords to increase their rents as well. RealPage calls this "maximiz[ing] opportunity[.]" As RealPage explained to one landlord, by using competitors' data, they can identify situations where "we may have a \$50 increase instead of a \$10 increase for that day." This is what RealPage encourages as "stretch and pull pricing."

10. RealPage allows landlords to manipulate, distort, and subvert market forces. One landlord observed that RealPage's software "can eliminate the guessing game" for landlords' pricing decisions. Discussing a different RealPage product, another landlord said: "I always liked this product because your algorithm uses proprietary data from other subscribers to suggest rents and term. That's classic price fixing . . . ." A third landlord explained, "Our very first goal we came out with immediately out of the gate is

that we will not be the reason any particular sub-market takes a rate dive. So for us our strategy was to hold steady and to keep an eye on the communities around us and our competitors.”

11. RealPage’s scheme not only distorts competition to the detriment of renters, but also allows it to reinforce its dominant position in the market for commercial revenue management software. By its own account, RealPage controls at least 80 percent of that market. Its dominant position is protected by substantial data advantages due to its massive reservoir of ill-gotten competitively sensitive information from competing landlords. No other revenue management company can match RealPage’s access to landlords’ nonpublic, competitively sensitive rental data. This is why RealPage acknowledges that it “does not have any true competitors, mainly because our data is based on real lease transaction data.” RealPage’s conduct is predatory and exclusionary, which has allowed it to distort the market opportunities for honest providers of revenue management software.

12. At bottom, RealPage is an algorithmic intermediary that collects, combines, and exploits landlords’ competitively sensitive information. And in so doing, it enriches itself and compliant landlords at the expense of renters who pay inflated prices and honest businesses that would otherwise compete.

13. The United States and the States of North Carolina, California, Colorado, Connecticut, Minnesota, Oregon, Tennessee, and Washington, acting by and through their respective Attorneys General, bring this action pursuant to Sections 1 and 2 of the

Sherman Act to rid markets of (i) RealPage's unlawful information-sharing scheme, and (ii) its illegal monopoly in commercial revenue management software. In so doing, Plaintiffs seek to restore the free market to deserving individuals, families, and honest businesses.

**II. REALPAGE'S REVENUE MANAGEMENT SOFTWARE IS FUELED BY NONPUBLIC, COMPETITIVELY SENSITIVE INFORMATION SHARED BY LANDLORDS**

14. RealPage dominates the market for commercial revenue management software that landlords use to price apartments, controlling at least 80 percent of that market, according to its own estimates. RealPage currently offers three revenue management systems to landlords: YieldStar, AI Revenue Management (AIRM), and Lease Rent Options (LRO). The company's main legacy software, YieldStar, is the product of three acquisitions and subsequent internal development. Its successor, AIRM, uses much of the same codebase as YieldStar, but RealPage claims that AIRM's refined models and forecasting are more precise. RealPage acquired its other revenue management software, LRO, in 2017. RealPage has made plans to sunset both YieldStar and LRO by the end of 2024.

15. Competitively sensitive data collected from competing landlords is a critical input to RealPage's revenue management software. AIRM and YieldStar collect this data, such as rental applications, executed new leases, renewal offers and acceptances, and forward-looking occupancy, and use it to generate price

recommendations for the competing landlords. This information is among the most competitively sensitive data a landlord maintains.

16. The exploitation of sensitive data from competing landlords is central to RealPage’s approach. As part of pitching its software to landlords, RealPage highlights that its pricing algorithms use their competitors’ data sourced directly from “lease transaction data.” RealPage describes this nonpublic data from competitors as one of three “building blocks of price” in AIRM and YieldStar. Landlords thus share their competitively sensitive information with RealPage with the understanding that RealPage’s software will use the data to generate recommendations for rivals (and vice versa).

**A. Landlords Agree to Share Nonpublic, Competitively Sensitive Transactional Data with RealPage for Use in Generating Competitors’ Pricing Recommendations**

17. RealPage amasses nonpublic, competitively sensitive data from competing landlords through use of its pricing algorithms, other rental property software, and thousands of monthly phone calls. The combined troves of nonpublic, competitively sensitive data are much more granular, sensitive, timely, and comprehensive than alternatives—and far more detailed than any data publicly available to potential renters. RealPage then uses this data in generating competitors’ pricing recommendations.

18. *Data shared through YieldStar and AIRM.* Each AIRM and YieldStar client agrees to share detailed data with RealPage that are private, updated nightly, and granular. The data include lease-level information on each unit’s effective rent (rent net

of discounts), rent discounts, rent term, and lease status, as well as unit characteristics such as layout and amenities. It also includes the number of potential future renters who have visited a property or submitted a rental application.

19. Landlords understand that AIRM and YieldStar use their data to recommend prices not just for their own units, but also for competitors. For example, a revenue management director at Landlord 1 testified that she understood that Landlord 1, and other competing landlords who used AIRM or YieldStar, agreed with RealPage to share their data, which was combined in a single data pool for use by YieldStar and AIRM. An executive at Landlord 2 noted the advantages to using YieldStar at a property if others in the property's submarket—the small geographic area around the property—also used YieldStar because “the shared data between the models at different communities can be a benefit in getting accurate transactional data on a timely basis.”

20. Landlords agree to provide this information for use by their competitors because they understand they will be able to leverage the sensitive information of their rivals in turn. In its pitch to prospective clients, RealPage describes AIRM's and YieldStar's access to competitors' granular, transactional data as a meaningful tool that it claims enables landlords to outperform their properties' competitors by 2–7%. RealPage clients receive training that highlights the role of competitors' transactional data in the price recommendation process.

21. ***Data Shared Through Other RealPage Products.*** AIRM and YieldStar are not the only ways that RealPage shares nonpublic, competitively sensitive information

among landlords. RealPage obtains the same confidential transactional data from landlords that license at least three other programs: OneSite, Performance Analytics with Benchmarking, and Business Intelligence.

22. *OneSite* is RealPage's property management software, which operates as the central source of data for landlords' leasing activity. *Performance Analytics with Benchmarking* allows landlords to compare the performance of their properties and floor plans (e.g., a one-bedroom, one-bathroom unit) to their competitors. *Business Intelligence* is a data analytics tool that pulls data from a landlord's property management software and other products.

23. Each landlord using RealPage's OneSite, Business Intelligence, and Performance Analytics with Benchmarking products agrees to share its proprietary data with RealPage and agrees that RealPage's revenue management software can use the data to generate pricing recommendations. The license agreements for these products specifically identify the shared data, such as pricing information, as confidential, nonpublic information. RealPage takes this deeply confidential information and uses it to provide rent recommendations to competitors of these clients.

24. These agreements grant RealPage access to confidential information from over 16 million units across the country, including many that do not use its revenue management products. With respect to Performance Analytics with Benchmarking alone, a RealPage sales representative told a prospective client that "we have over 16 million units of data coming from various source operating systems (PMS) [property

management software] into the PAB platform,” making RealPage the top choice for “transactional data benchmarking.” With properties containing approximately 3 million units using AIRM and YieldStar, these additional agreements meaningfully multiply the scale of the transactional data used by AIRM and YieldStar. This gives RealPage greater visibility, including into markets with less penetration by AIRM and YieldStar, granting even initial AIRM and YieldStar adopters in a new market the benefit of access to a significant amount of nonpublic, competitively sensitive information.

25. Landlords understand that AIRM and YieldStar will use data from these products. A revenue management director at Landlord 1 explained that RealPage ingests transactional data from several RealPage products, besides AIRM and YieldStar, for use in revenue management.

26. A revenue management executive at Landlord 2 asked RealPage if other specific landlords were using RealPage’s non-revenue management products. The landlord’s owner client was concerned about the data available to YieldStar because competing properties were unsophisticated and did not use revenue management. This executive wanted to confirm that “YieldStar will be able to leverage actual transactional data behind the scenes and not just look at offered rents for their comps.” RealPage reminded the Landlord 2 executive that RealPage collected transactional data for *all* users of OneSite, Business Intelligence, and Performance Analytics with Benchmarking, and reassured the executive that YieldStar had ample transactional and survey data for that area.

27. **Calling Landlords.** RealPage has an additional, complementary product called Market Analytics. Market Analytics compiles data from over 50,000 monthly phone calls that RealPage makes to landlords across the country. On these calls RealPage collects nonpublic, competitively sensitive information by floor plan on occupancy rates, effective rents, and concessions, as well as information on the owner, management company, and any revenue management software used at the property. These market surveys cover over 11 million units and approximately 52,000 properties. Landlords, including but not limited to those that use AIRM, YieldStar, or other RealPage products, knowingly share this nonpublic information with RealPage.

**B. AIRM and YieldStar Users Agree with RealPage to Use the Software to Align Pricing**

28. In addition to agreeing to share nonpublic, competitively sensitive data with RealPage, each AIRM and YieldStar licensee agrees with RealPage to use the AIRM or YieldStar pricing software as RealPage designed it. Landlords are expected to review daily AIRM or YieldStar floor plan price recommendations and use the programs to set scheduled floor plan rents or even unit-level prices.

29. While landlords may not accept every price recommendation, they use AIRM or YieldStar as their pricing software, regularly review AIRM or YieldStar floor plan recommendations, use AIRM or YieldStar to set a scheduled floor plan rent, and use AIRM or YieldStar to set unit-level prices.

30. Landlords who use AIRM and YieldStar know that others are using the same software. Some landlords track which revenue management software their



competitors use, including by contacting competing properties directly and exchanging nonpublic information. Other landlords, including prospective AIRM and YieldStar users, ask RealPage whether there are existing AIRM and YieldStar users nearby before they themselves license the products.

31. An executive at Landlord 2, for example, explained to her team how she would learn from RealPage data or from a property's website whether a property used revenue management. This information is important because properties that use revenue management tend to update prices much more frequently, and so a landlord will react differently to those price changes if it knows the competitor is using revenue management.

32. RealPage frequently tells prospective and current clients that a "rising tide raises all ships." A RealPage revenue management vice president explained that this phrase means that "there is greater good in everybody succeeding versus essentially trying to compete against one another in a way that actually keeps the industry down." This rising tide lifts all landlords, including but not limited to AIRM and YieldStar users.

33. In using AIRM and YieldStar, landlords expect this pricing alignment and use RealPage software in part for this reason. One landlord echoed the RealPage executive, using the phrase "a rising tide rises [sic] all ships" to explain that AIRM would move prices in a "similar manner" to how the top and bottom of the market move. Elsewhere that same landlord noted that "if everyone in the market is doing well and everyone in the market has [sic] is having the rates go up, so should ours, right?" An

employee at Landlord 2 referenced RealPage’s use of the phrase “a rising tide raises all ships” to explain how AIRM would provide price recommendations that amplify market trends. Multiple landlords have expressed their preference that their competitors use YieldStar and AIRM because widespread use would benefit them all. An executive of one landlord (which itself uses YieldStar and AIRM) said in a 2021 earnings call that more sophisticated, “high-quality competition” was better for that landlord when “they all use revenue management. They are all smart. They raised rents when they should.”

**C. RealPage’s Transactional Data Is Fundamentally Different from Other Data Available to Landlords**

34. The data that RealPage uses and supplies is unique relative to public data available to landlords on listing or property websites. As compared to public data, RealPage data is much more granular, covers a broader array of business information, and includes competitively sensitive data across several dimensions. For example:

- *Information on Actual Transactions.* RealPage’s data include, for each lease, the unit, floor plan, listed rent, final transacted lease price (including any discounts), and lease term.
- *Renewals.* RealPage’s data include the same information for lease renewals. Information on renewals is not listed publicly—not even asking rents—leaving a significant blind spot for landlords not using RealPage.
- *Time Span.* AIRM and YieldStar have access to current and historical lease data, from the previous day and going back two to three years.

- *Future Demand.* The shared data further include information on tenant demand, including detailed information on inquiries and applications by potential future tenants.
- *Accuracy.* Landlords have greater assurance of the accuracy of the data because it comes directly from the landlords' own databases.
- *Coverage.* The RealPage data covers millions of units from users of its revenue management software and other products.

35. RealPage touts how its data is different. As one RealPage pitch deck put it, “we have [the] most data and the best data.” And the “[q]uality of data is best in class given that it is ‘lease transaction data’—this provides insight into performance data from actual signed leases, both new and renewal, net effective of concessions.” Another noted that without YieldStar “you’ll be pricing your renewals in the dark without insight into actual lease transaction data that YS uses to help you make pricing decisions. This is critical to price renewals right[, ] especially in a downturn.”


36. Access to this data proves important in winning over revenue management clients, including skeptical ones. One RealPage senior manager noted that a “highly suspicious CFO” was won over in part by YieldStar’s “lease transaction data” that allowed his company to “achieve what his people couldn’t achieve on their own.”

37. Another landlord’s internal training presentation on YieldStar highlighted the importance of having access to competitors’ transactional data:

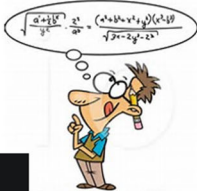
## How Does it Work?


Calculates Price using complex algorithms:

- Historical data
- Current OneSite data
- Transactional Competitive Market Data



Used to generate a price recommendation  
EVERY day for EVERY unit!





**D. RealPage Revenue Management Software Uses Nonpublic, Competitively Sensitive Data to Recommend Prices**

38. AIRM and YieldStar are built upon similar code and leverage competitive data in similar ways. LRO, on the other hand, was originally developed outside of RealPage and takes a different approach.

***1. AIRM and YieldStar Leverage Competitively Sensitive Data to Generate Price Recommendations***

39. AIRM uses competitors’ nonpublic, transactional data in three separate stages of the pricing process: (1) model training, (2) floor plan price recommendations, and (3) unit-level prices. YieldStar uses competitors’ nonpublic, transactional data in stages two and three of its process.

---

<sup>1</sup> Landlord names have been obscured in images in this complaint.

***a) AIRM model training relies on competitively sensitive data to generate learned parameters.***

40. In the first stage, RealPage trains its AIRM models using nonpublic data from OneSite and other property management software, totaling millions of executed lease transactions, new lead applications, renewal applications, and guest cards filled out by visiting potential tenants. This data is run through a machine learning model to generate learned parameters for supply and demand models that are then used for all AIRM clients across the country. Like the coefficients in a regression model, the learned parameters are applied to the data of a landlord's specific property, and to the data of its competitors, when AIRM makes pricing recommendations. RealPage generally retrains the models three to four times per year using updated nonpublic data.

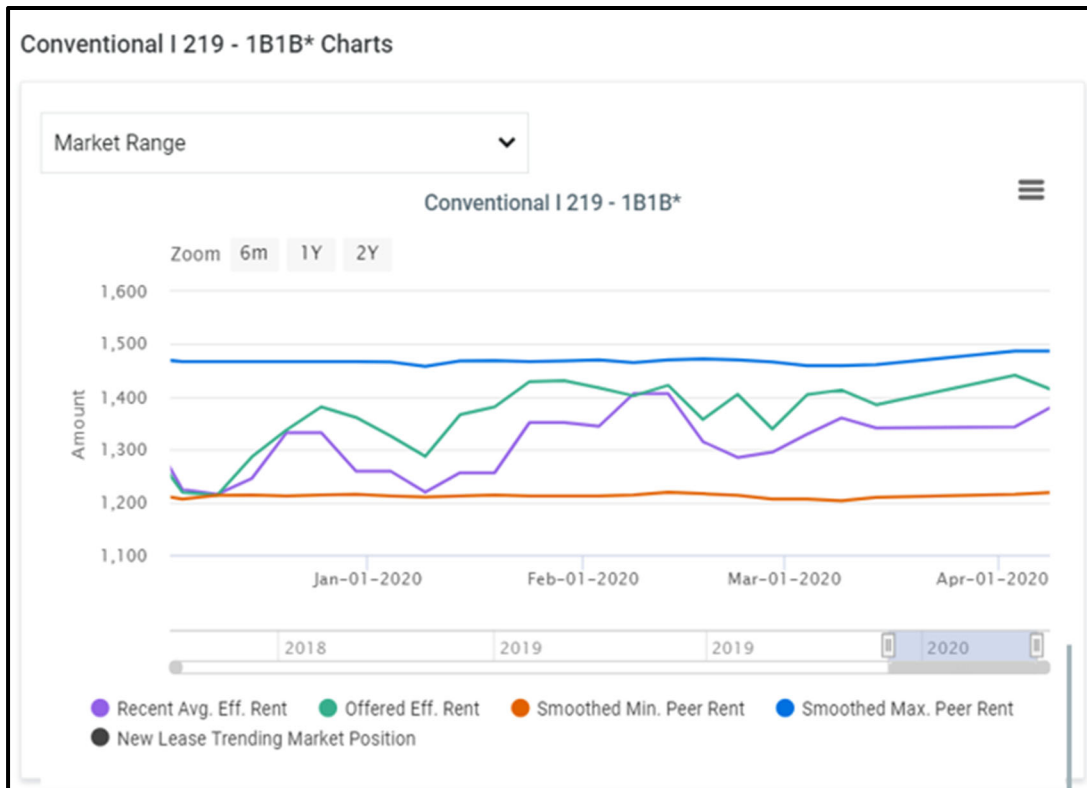
***b) AIRM and YieldStar incorporate competitors' nonpublic data to generate floor plan price recommendations.***

41. In the second stage AIRM or YieldStar provides a price recommendation for every floor plan of a given property. A floor plan is a grouping of units that share similar characteristics, such as the number of bedrooms and bathrooms and square footage. Landlords define the floor plans in their buildings—for example, a large apartment building might have separate sets of floor plans for studios, one-bedroom, and two-bedroom apartments. As discussed below, AIRM and YieldStar use competitors' nonpublic, transactional data in nearly every step of setting a recommended floor plan price, including identifying peer properties, forecasting occupancy and leasing, increasing rents to match competitors' changes, and determining the magnitude of price changes.

42. **Identifying Peers.** First, AIRM and YieldStar use confidential transaction data to identify a property's peer properties, which include close competitors. In selecting peer properties, RealPage's algorithm generally looks for properties with similar floor plans, within close geographic proximity, and with similar effective rents over time. AIRM or YieldStar clients may review the list of peer properties and request that RealPage add or remove specific properties.

43. AIRM or YieldStar then uses the nonpublic data from competitors' executed leases to generate a market range chart for each floor plan. This chart identifies a "smoothed" market minimum effective rent and market maximum effective rent. The market minimum is a hard floor. AIRM and YieldStar will not recommend a rent below the market minimum. On the other hand, the market maximum is a "soft ceiling," and the programs will recommend prices above the ceiling.

44. The client has access to the market range chart within the AIRM and YieldStar interfaces. As shown below, for each floor plan the client can see the smoothed market minimum and market maximum and where the client's own floor plan sits within the market range.



45. **Forecasting Occupancy and Leasing.** Every night, for each participating property, AIRM applies the model’s learned parameters to that property’s internal transactional data to forecast the number of expected vacancies and expected lease applications for a certain period into the future. AIRM may also use competitors’ data to adjust the projected supply.

46. AIRM or YieldStar then determines whether actual leasing for a floor plan is on track to meet predicted leasing. To do so, it creates a forecast of the number of leases over time, using nonpublic lease and application data from the subject property, and potentially from so-called surrogate properties (similar properties in the surrounding

area).<sup>2</sup> When there is an imbalance between a property's actual and forecasted leasing, it recommends a price change.

47. ***Changing Rents to Match Competitors.*** Even when a property's supply and demand are balanced, RealPage's software will still recommend a price change, based on competitors' nonpublic data, when it determines that the market is moving. For example, if the minimum and maximum of the competing floor plans' effective rents increase, it will recommend a price increase to maintain the floor plan's market position (its price position relative to its competitors).

48. ***Determining Magnitude of Price Changes.*** Once AIRM or YieldStar has determined that it will recommend a price increase or a price decrease, it again uses competitors' transactional data to determine *how much* the price should move and provide a floor plan price recommendation. It uses nonpublic transactional data from peer properties, in addition to data from the subject property and surrogate properties, to generate a market response curve—analogue to a market demand curve—for every floor plan. This demand curve provides an estimate of how demand for particular apartments would change in response to changes in rents, a measure that RealPage calls elasticity. In other words, it uses competitors' nonpublic transactional data to calculate how many leases the property will likely gain or lose for a particular floor plan, for every price point

---

<sup>2</sup> If there is insufficient historical data for a particular building, or floor plan within that building, RealPage will use data from what it calls a "surrogate property," which is the confidential transactional data from another property with characteristics similar to the subject property.



along the curve. Using this data, AIRM or YieldStar can determine how much the price can increase and still achieve the target number of leases, or by how little price can decrease to maintain a target occupancy.

49. RealPage describes elasticity as a pivotal input into balancing supply and demand and, therefore, price.

50. The use of surrogate properties in this pricing process has the potential to push convergence on price even further. As two properties' surrogate sets become closer—and therefore their respective demand curves become more similar—AIRM and YieldStar will generate increasingly similar prices for the two properties. And the use of surrogates is common. One of the largest landlords in the country, for example, uses surrogates at over 80% of its properties.

51. This process repeats for every floor plan in the client's property, every night. A new floor plan price recommendation is generated daily.

*c) AIRM and YieldStar use competitors' nonpublic data—including data on future occupancy—to determine unit-level prices.*

52. A property manager at the landlord reviews each floor plan recommendation daily and enters the floor plan price. AIRM and YieldStar then use the floor plan price to generate prices for every unit within the floor plan. The unit price is shown in a pricing matrix, which provides the price for each combination of start date and lease term. To generate the price for an individual unit, the floor plan price is adjusted to account for unit-specific factors such as amenities (e.g., a desirable view, the

floor level, or an in-unit washer and dryer), staleness (i.e., how long that specific unit has been vacant), and the timing of lease expirations. AIRM and YieldStar again use competitors' nonpublic data during this step in at least two ways.

53. First, AIRM and YieldStar use data on competitors' supply of multifamily housing to adjust recommendations to limit "exposure" with a feature called lease expiration management. Exposure refers to the number of units that are available for lease. Managing lease expirations is an important element of revenue management software. If too many leases expire and the corresponding units become available at the same time, supply increases and rents for those units will tend to drop. This process will also tend to repeat itself as the same units will become available at the same time a year later for leases with a standard twelve-month term.

54. The objective of expiration management is to smooth out this exposure so that landlords, as explained by one RealPage employee, "remain in a position of pricing power." For example, if AIRM or YieldStar sees that a large number of units will likely be available in twelve months, it will increase the price recommendation for a twelve-month lease relative to price recommendations for leases of other terms, such as 11 months or 13 months, in order to nudge potential renters to accept those terms. Expiration management can only raise prices—AIRM does not lower a unit's price if the lease term would fall in an underexposed period.

55. This calculation does not rely *only* on the predicted future supply for the client's property. For any landlord who uses a "market seasonality" setting, AIRM and

YieldStar *also* rely on competitors' transactional data and the supply for those competitors—including the supply of competitors' existing leases that expire in the future. AIRM and YieldStar thus work to manage lease expirations for the client's units based on how competitors' supply will change.

56. The use of competitors' nonpublic data in expiration management to fill out the pricing matrix occurs regardless of whether the landlord accepts the AIRM or YieldStar recommendation. Thus, even if a landlord were to override every price recommendation, its rental prices would still be influenced by nonpublic information about its competitors' supply.

57. Second, AIRM and YieldStar include an amenity optimization feature. By pricing specific amenities within units, landlords can avoid making wholesale pricing changes to a floor plan if a specific unit fails to lease. Within the amenity analysis, AIRM and YieldStar provide market values for specific amenities to landlords, allowing them to compare their perceived value of an amenity with the nonpublic valuation of their competitors. The peer data include the market minimum and maximum value for specific amenities.

## ***2. LRO Relies Primarily on Landlords to Input Data on Competitors***

58. RealPage's LRO also provides pricing recommendations to users. LRO, however, does not inherently use competitors' transactional data from RealPage's systems to make those recommendations. Instead, each week, LRO users manually input

competitor information into the system that they have obtained from public websites or more questionable means, such as communicating directly with their competitors.

59. A small number of LRO users subscribe to a feature called AutoComp. With this feature, RealPage provides information on competitors' rents, traffic, and occupancy. This information comes from market surveys that RealPage compiles using call centers to call competitor properties. Landlords may use LRO without using AutoComp.

**E. RealPage Uses Multiple Mechanisms to Increase Compliance with Price Recommendations**

60. AIRM and YieldStar provide daily price recommendations. RealPage has taken multiple steps to increase compliance with AIRM and YieldStar price recommendations. It designed AIRM and YieldStar to make it much easier to accept recommendations than to decline them. It built an auto-accept function and pushes clients to adopt it and increase its role. And its pricing advisors encourage landlords to follow AIRM and YieldStar pricing recommendations. Among their duties, pricing advisors review any request to override a price recommendation.

***1. AIRM and YieldStar Make it Easy to Accept Recommendations and More Difficult and Time-Consuming to Decline***

61. Every morning, the landlord's property manager chooses whether to accept the floor plan price recommendation, keep the previous day's rent, or override the recommendation. These options are the same for new leases and renewal leases. RealPage makes it easier and faster for a client to accept a recommendation than to

decline it. When accepting recommendations, the manager can choose to do a bulk acceptance—she can accept all or multiple floor plan recommendations at once. But she cannot do the same when overriding, or rejecting, the recommendation.

62. Instead, for every recommendation that she does not accept—whether overriding or keeping the previous day’s rent—the property manager must provide “specific business commentary” for diverging from the recommendation. This justification, RealPage instructs, should not be a mere preference for another price but must be based on a factor that the model cannot account for, such as local construction or renovations occurring in the building. It must be a “strong sound business minded approach.”

63. The property manager knows that these recommendation rejections and accompanying justifications will be sent to a RealPage pricing advisor.<sup>3</sup> If the pricing advisor disagrees with the rejection or justification, the disagreement is escalated for resolution to a landlord’s regional manager, who typically supervises the property manager.

64. As one client who complained to RealPage explained, RealPage’s design is “trying to persuade [clients] to take the recommendations (almost like we made it hard to do anything but).”

---

<sup>3</sup> Some clients have internal revenue managers that are certified by RealPage. For those clients who have internalized the revenue management function, recommendation rejections may be routed to the internal revenue manager rather than a RealPage pricing advisor.

## ***2. RealPage Pushes Clients to Adopt Auto-Accept Settings That Automatically Approve Recommendations***

65. AIRM and YieldStar each include auto-accept functions. This functionality automatically accepts price recommendations falling within certain parameters. By default, AIRM and YieldStar set auto-accept parameters of a 3% daily change and an 8% weekly change. The landlord can change these parameters, disable or enable auto-accept, and even enable partial auto-accept. With partial auto-accept, if the recommendation exceeds the auto-accept parameters, the recommendation is accepted as far as the parameter permits. For example, if the auto-accept daily change limit is 4% and the price recommendation is 5%, using partial auto-accept will result in an increase of 4%. By enabling auto-accept, a landlord functionally delegates pricing authority to RealPage (within the bounds of the daily and weekly limits).

66. As part of the onboarding process, internal RealPage guidance states, “AUTO ACCEPT should be confirmed as ‘on’ with parameters in place.” Internal AIRM training explained that RealPage wanted to “widen auto accept parameters” by introducing the feature and then “creating enough trust so that over time we have client[s] that are willing to let auto accept run with very wide parameters... AKA – accept all recommendations.” RealPage trains pricing advisors to have an “accountability conversation” or a “refresher on short term vs long term goals” for clients that show less tolerance for increasing auto-accept parameters.

67. Even if a landlord does not want to use auto-accept, RealPage trains its advisors to convince the landlord to turn it on with 0% limits—a setting whereby auto-

accept will never accept price changes. The reason? So that it is no longer a question of whether the client turns on auto-accept, but only a matter of convincing them to widen the parameters and further delegate pricing decisions. RealPage instructs its advisors on best practices: “[I]f a partner is not ready to use auto acceptance, are they ready to use revenue management?”

**3. *RealPage Pricing Advisors Provide a “Check and Balance” on Property Managers to Increase Acceptance of Recommendations***

68. RealPage offers landlords pricing advisory services. Landlords typically have an assigned pricing advisor, unless the client has internal revenue managers that were certified by RealPage. Pricing advisors play an important role in the daily review of pricing recommendations. Landlords’ property managers are asked to review recommendations every morning by 9:30 a.m. After their review, a pricing advisor accepts agreed-upon pricing within an hour and escalates any disputes to the landlord’s regional manager.

69. If a property manager disagrees with the direction of a recommended price change—e.g., the manager wants to implement a price decrease when the model recommends a price increase—the RealPage pricing advisor escalates the dispute to the manager’s superior. As a pricing advisor manager explained in a client training, the advisor would “stop the process and reach out to our partners”—the property manager’s supervisors—to “talk about this further.” The advisors, the manager elaborated, are part of a system of “checks and balances.” The client confirmed the value of this system to

stop property managers from acting on emotions, which could limit RealPage's influence on their pricing.

70. Beyond the daily interactions between pricing advisors and their own property managers, clients agree to make meaningful changes when they use RealPage's pricing advisory services. Under the specifications for this service, clients agree to use AIRM or YieldStar exclusively to give quotes to potential renters, further tying landlords' pricing decisions to RealPage's software. Clients also agree to change their commission programs for leasing agents to "ensure these programs motivate sales behavior that is consistent with the objectives of revenue growth." And clients further agree to revenue growth as the official metric to evaluate AIRM and YieldStar, as opposed to occupancy rates.

#### ***4. Pricing Recommendations Heavily Influence Landlords' Behavior***

71. RealPage defines an acceptance as where the final floor plan price is within 1% of the recommended floor plan price. According to that definition, the average acceptance rate across all landlords nationally for new leases between January 2017 and June 2023 is between 40-50%. But RealPage itself recognizes that acceptance rates are not necessarily the best measure of its influence; one employee explained that the spread between a floor plan recommendation and the final scheduled floor plan price is more useful for measuring model adoption—and therefore influence—than the binary accept/reject decision that the RealPage-defined acceptance rate reflects. Widening the definition of acceptance even slightly to account for partial acceptances illustrates the



influence of recommendations: nearly 60% of final floor plan prices are within 2.5% of RealPage's recommendation, and more than 85% are within 5% of RealPage's recommendation.

72. RealPage's preferred measure of acceptance understates the influence of RealPage's price recommendations and the effect of competitors' data. AIRM and YieldStar use competitors' nonpublic transactional data to adjust unit-level pricing, after a floor plan recommendation has been accepted or rejected. RealPage's metric does not capture the cumulative effect of rate acceptances over time. Nor do they capture when a client is influenced by and partially accepts a recommendation.

### **III. COORDINATION AMONG COMPETING LANDLORDS IS A FEATURE OF THIS INDUSTRY**

73. Several characteristics of apartment-rental markets make it easier for landlords to coordinate with, or accommodate, each other. Rental housing is a necessity for many Americans, meaning that demand is inelastic—that is, changes in rent produce relatively small changes in the number of renters. There is significant concentration among landlords in local markets, and these landlords engage in widespread, regular communications with one another. And RealPage makes rental units more comparable to each other in AIRM and YieldStar, allowing landlords to track one another more easily. These industry characteristics exacerbate the harm to the competitive process—and ultimately to renters—from the exchange of nonpublic, competitively sensitive data through RealPage and the use of the AIRM and YieldStar models.

**A. Rental Housing is a Necessity for Millions of Americans**

74. Shelter is a basic, foundational necessity of life. And for tens of millions of Americans, conventional multifamily apartment buildings are the only reasonable option for much of their lives. Many renters cannot afford the significant down payment needed to purchase a single-family home, among other requirements.

75. Demand for apartments is relatively inelastic. Rising rents have disproportionately affected low-income residents: The percentage of income spent on rent for Americans without a college degree increased from 30% in 2000 to 42% in 2017. In 2021, the proportion of severely burdened households—households spending more than half of their income on gross rent—was 25%, or approximately 10.4 million households, an increase in approximately 1 million households since 2019. By 2022, this number increased to 12.1 million households. For college graduates, the percentage of income spent on rent increased from 26% to 34% from 2000 to 2017.

**B. The Multifamily Property Industry is Rife with Cooperation Among Ostensible Competitors**

76. Within particular metropolitan areas and neighborhoods, the multifamily property industry is concentrated and replete with competitively sensitive discussions among ostensible competitors. Landlords have agreed with one another to share nonpublic, sensitive information, both indirectly through RealPage software and directly outside of RealPage's software. RealPage facilitates some of these discussions, while others are made directly between competing landlords. These discussions supplement and reinforce the indirect information sharing among landlords that occurs through AIRM

and YieldStar. As a result of this coordination, RealPage's pricing algorithms are even more likely to restrain, rather than promote, competition.

***1. At the Local Level, the Multifamily Property Industry Comprises a Small Number of Large Landlords Managing Buildings with Different Owners***

77. In 445 zip codes with at least 1,000 total multifamily units across 109 core-based statistical areas, five or fewer landlords manage more than 50% of the multifamily units. Within the submarkets alleged in this complaint, there are at least 139 zip codes, each with at least 1,000 total multifamily units, in which five or fewer landlords manage more than half of those units. Similarly, within the ten core-based statistical areas alleged in the complaint, there are 117 zip codes, each with at least 1,000 total multifamily units, in which five or fewer landlords manage more than half of those units.

78. The same landlord often oversees nearby properties with different owners. In at least 502 zip codes, at least one landlord using AIRM or YieldStar oversees properties with different owners.

79. There is also overlap among RealPage pricing advisor assignments. In at least 683 zip codes, within 96 core-based statistical areas, a RealPage pricing advisor has responsibility for properties managed by different landlords. RealPage takes no steps to avoid assigning the same pricing advisor to properties with different owners, even if those properties compete with each other or are RealPage-mapped competitors.

## ***2. Landlords Regularly Discuss Competitively Sensitive Topics with Their Competitors and Swap Information***

80. Landlords regularly solicit and obtain nonpublic information about inquiries by prospective renters, occupancy, and rents from their direct competitors. Although this information is not as accurate or thorough as the transactional-level data shared with AIRM and YieldStar, it is nonetheless sensitive competitive information.

81. Landlords collect this information through a variety of means, including weekly phone calls, emails, and in-person visits. Some landlords also share information on their local geographic markets through shared Google Drive documents. One RealPage employee explained to his colleagues, reflecting on his former time working at a landlord, that these weekly inquiries “required cooperation among the comp[etitor]s but wasn’t hard to get that.” In June 2023, a senior director at Landlord 3 admitted that “this practice has been prevalent in our industry for a long time.”

82. Landlords not only knew of these so-called “market surveys,” but expected their property managers to participate. As a manager of Landlord 3’s revenue management department explained, “we have always expected our properties to continue doing a traditional market survey[,]” which “gives us insight into the very specific handful of competitors closest to the subject property.”

83. At a February 2020 industry event, representatives from Landlord 3 and two other landlords shared tips on collecting information on concessions and net effective rents from competitors. The suggestions included bi-weekly and monthly meetings with competitors, sponsored “cocktail hours for regional competitors to share info and build

relationships and rapport,” and using Google Drive documents to share information on a weekly basis. Building relationships with competitors to get accurate data was “critical.” The representatives cautioned that the collected data was used to make “major decisions about pricing,” so the landlord employees collecting data should be trained accordingly to ask such questions as “are you seeing a slow down?” and “are you adjusting pricing?”

84. Some landlords engage in even more sensitive communications about price, demand, and market conditions. These communications are not isolated instances at a specific property. Rather, they are conversations at the corporate revenue management level about strategies and approaches to market conditions that apply to the landlords’ business across all markets.

85. For example, in January 2018, Landlord 2’s director of revenue management reached out to Landlord 1’s director of revenue management and asked about Landlord 1’s use of auto accept in YieldStar. In response, Landlord 1’s director provided Landlord 1’s standard auto-accept settings, including daily and weekly limits and for which days of the week auto accept was used. The Landlord 1 director, explaining why she provided this information, testified that the Landlord 2 director was a “colleague,” even though Landlord 2 was a competitor to Landlord 1.

86. In September 2020, Landlord 4’s director of revenue management reached out to Landlord 1’s director of its internal revenue management team. Landlord 4 asked Landlord 1—a direct competitor—what increases on renewal pricing Landlord 1 had seen in August and offered what it had seen. Landlord 1’s director replied with information

not only on August renewals, but also on how Landlord 1 planned to approach pricing in the upcoming quarter. Landlord 1's director further disclosed its practices on accepting YieldStar rates and use of concessions. As the conversation continued, the two competitors shared additional highly-sensitive information on occupancy—including in specific markets—demand, and the strategic use of concessions.

87. In June 2021, Landlord 2's head of revenue management emailed Landlord 1's revenue management director. She proposed collaborating with Landlord 1 to convince a client to move all of its properties, including those managed by Landlord 2 and those managed by Landlord 1, to AIRM. But she also noted that, in thinking about "the larger picture as well," it could be useful to "coordinate with the other companies that we often share business with" to prepare to move their clients to AIRM as well. Landlord 1 responded favorably to transitioning the joint client to AIRM.

88. In November 2021, a revenue management executive at Landlord 5 emailed an executive at Landlord 4 to propose a call to discuss how Landlord 4 approached lease renewals, for the purpose of informing how Landlord 5 calculated renewal increases. The two spoke that day. The following day, another Landlord 5 executive—who was included on the call—thanked the Landlord 4 executive for the opportunity "connect on industry best practices" and asked another "operational question" about implementing "larger renewal increases." The executives exchanged emails over the next few months, including discussing their respective strategies on maximum increases to lease renewal

prices. They shared not only their increase limits in specific markets but also what price increases they were able to achieve.

89. In September 2021, a property manager at Landlord 6 explained to a colleague that the manager had called two competitors and received from them pricing information on two-bedroom and three-bedroom units. The property manager asked for the information to decide how to act on YieldStar's price recommendations.

90. In addition to contacting each other directly, many landlords also exchange information through other intermediaries. One vendor offers a tool for landlords to exchange with one another nonpublic information on concessions, net effective rents, inquiries and visits by prospective renters, and occupancy that is pulled from each landlord's property management software. Over 150 landlords nationally use this service, including Landlord 1 and Landlord 5, and some of the other largest landlords across the country. The vendor's CEO described this as a "quid pro quo or give to get" arrangement among landlords where "if you share this data with me, I'll share the same data." A RealPage employee noted that this vendor makes it "quicker and easier to get your market surveys."

91. Some landlords use this direct exchange of competitively sensitive information to update competitor rents within LRO—a practice that RealPage is aware of and accepts.

92. Recently, under the scrutiny of antitrust lawsuits, at least one landlord (Landlord 3) has adopted an internal policy prohibiting "call arounds" and other direct

sharing of competitively sensitive information with direct competitors. But even assuming that its property managers fully comply with these legally unenforceable internal policies, Landlord 3 continues to use RealPage’s revenue management software.

***3. At RealPage User Group Meetings, Landlords Discuss Competitively Sensitive Topics***

93. RealPage holds monthly “user group” meetings attended by competing landlords that use RealPage’s software. There are separate user group meetings for LRO and for YieldStar and AIRM.<sup>4</sup> One of RealPage’s stated purposes for the user groups is to “to promote communications between users.” Attendees include a wide mix of competing landlords. For example, the June 2022 YieldStar user group included representatives from five of the largest property management companies in the country, among a larger group.

94. Recurring topics at the user group meetings include product enhancements and an “idea exchange” on potential changes to the products. The user group participants often vote on the proposals discussed in the idea exchange. But discussions have covered competitively sensitive topics, including managing lease expirations, pricing amenities, and how to manage properties during the COVID-19 pandemic. RealPage encouraged landlords to use the user group meetings to discuss such topics in their industry and set agendas for these meetings to aid them in doing just that.

---

<sup>4</sup> RealPage previously held separate AIRM and YieldStar user groups but combined them in 2023.



95. At an April 2020 YieldStar user group meeting, the participants discussed strategies for handling the COVID-19 pandemic. In the presentation, two RealPage employees and a landlord led a group discussion of trends in rent payments and collections and provided five strategic tips. One tip encouraged landlords to “push for occupancy but don’t give away the farm (pricing).” Another counseled landlords to “balance internal and external dynamics” and, referring to the nonpublic information used by YieldStar, to “use transactional market data for decision support and to know when you can be more aggressive” in pushing higher rents. Invited attendees included representatives from at least twelve landlords. At this meeting, Landlord 1 and another landlord shared information on their usage of payment plans with tenants.

96. In May 2020, RealPage started a YieldStar user group meeting by surveying them on concessions. RealPage asked landlords how many of their properties offered concessions, whether concessions applied to new leases or renewals, and the types of concessions offered (such as discounts, gift cards, or other benefits). Invited attendees included representatives of thirteen landlords.

97. RealPage began its agenda for an April 2021 YieldStar user group meeting with “strategic insights” from a RealPage economist. This employee shared “21 key strategic insights,” including “focus on renewals,” “be cautious with concessions,” and “drive up revenues—not just base rent.” Specifically, he urged the group to “push up new and renewal pricing where demand [is] solid” and warned against over-relying on concessions. They were instead to “trust the science” of YieldStar.

98. In May 2021, RealPage included a “Back to Basics” discussion in a YieldStar user group meeting. This discussion covered “returning to renewal increases post-COVID” and “declining concessions,” as well as eviction moratoria and areas where acceptance rates were “seeing significant uptick in past 6 months.” The meeting group chat is even more revealing. Over a period of approximately fifteen minutes, representatives from fifteen landlords shared their plans for renewal increases and their use of concessions. These representatives made statements on renewal increases such as “increasing, back to normal,” “major rent growth on the west coast,” “increasing the renewals,” “almost all markets we are raising rents,” “actually raising more than before covid at some,” “raising,” and “we are pushing to get back to normal. Sending increases.” A representative from Landlord 5 stated, “increasing renewals and pushing new lease rents.”

99. The user group members were similarly open about their disinterest in concessions, signaling to each other that they do not intend to offer them or would offer them less frequently. Their pronouncements included “no concessions [sic],” “no concessions,” “considerably less concessions,” “less frequent and less aggressive,” “no concessions except in markets with a lot of lease-ups,” and “almost no concessions currently.”

100. When the discussion turned to acceptance rates, one user group member explained to the group, for “about 1/3 of the communities I manage the [YieldStar] model

was too slow to respond, and we are pushing rates above market and above YS rec[ommendation].”

101. The Landlord 5 representative who attended this May 2021 meeting testified that similar discussions happened numerous times during the COVID-19 pandemic—specifically, the beginning of 2020 through the middle of 2022. In these meetings, user group members discussed new and renewal rent increases, concessions, and renewal strategies, as well as other sensitive topics.

102. RealPage claims that this and other user group meetings were not recorded.

103. The July 2021 YieldStar user group meeting, held at RealWorld (a RealPage-hosted industry event), included a roundtable discussion among competitors. One of the discussion topics? “What is the one thing you consistently consider outside of the model when accepting or changing price and why?”

104. At the October 2021 YieldStar user group meeting, a RealPage economist gave a presentation regarding the 2022 market outlook. RealPage presented analyses on current occupancy and pricing, and on expected occupancy and rent growth in 2022 by geographic regions.

105. At the July 2022 RealWorld YieldStar user group meeting, RealPage hosted a “roundtable discussion” on market volatility and its impact on how to use

revenue management, unit amenities and their impact on tenant rents, and best practices for conducting lease ups.<sup>5</sup>

106. RealPage recognized the sensitive nature of the information shared at these meetings. Beginning in late 2022, after public reporting about AIRM and YieldStar, RealPage added an antitrust compliance statement in the user group presentations. Among other directions, the statement instructed participants not to discuss “confidential or competitively sensitive information,” and then noted that this included “you or your competitors’ prices or anything that may affect prices, such as current or future pricing strategies, costs, discounts, concessions or profit margins.” But these were the very topics of previous user group meetings, as described above, that RealPage encouraged its users to discuss. And these are the very types of nonpublic information that AIRM and YieldStar use to recommend and determine prices.

107. Landlords frequently take advantage of RealPage user group meeting invites to email each other directly. In August 2020, for example, an employee of Landlord 6 emailed a user group invitee list and asked them to support a change to how YieldStar calculated the number of leases needed. In response, an employee of a different landlord agreed, adding that “I also rely on comparing available units to adj[usted] leases needed, to forecast leases, to gut check the pricing recs. These data points are always a factor in my pricing decisions.”

---

<sup>5</sup> A lease up is typically a pre-leasing period (such as with a newly constructed property) where a landlord is seeking to reach a certain, initial occupancy threshold.

**C. RealPage Uses Nonpublic Information to Allow Landlords to More Easily Compare Units on an Apples-to-Apples Basis**

108. Renters typically search for a rental unit using certain key criteria, including the number of bedrooms and the location. Recognizing this market reality, RealPage enables landlords to more easily compare unit prices. When picking a property's "peer set," RealPage matches floorplans with the same number of bedrooms that are geographically proximate. This makes it easier for landlords, through AIRM and YieldStar, to track and respond to competitors' movements at the floor plan level.

109. To account for amenities, RealPage instructs landlords to identify amenities using standardized naming conventions so that RealPage can use machine learning to group amenities together. RealPage then provides the market value for specific amenities, allowing landlords to more accurately identify and track how their competitors value these amenities and adjust their own pricing accordingly. The peer data include the market minimum and maximum value, as well as market quartile values, for specific amenities.

**IV. REALPAGE HARMS THE COMPETITIVE PROCESS AND RENTERS BY ENTERING INTO UNLAWFUL AGREEMENTS WITH LANDLORDS TO SHARE AND EXPLOIT COMPETITIVELY SENSITIVE DATA**

110. AIRM's and YieldStar's use of nonpublic, competitively sensitive data is likely to harm, and has harmed, the competitive process and renters. AIRM and YieldStar distort the competitive process by using nonpublic data to maximize pricing increases and minimize pricing decreases. AIRM and YieldStar incorporate special rules, called

“guardrails,” that override the ordinary functioning of the algorithms in ways that tend to push rival landlords’ rental prices higher than would occur in a competitive market.

RealPage presses landlords to curtail “concessions” to renters. And AIRM and YieldStar’s “lease expiration management” features aim to sequence vacancies to maximize landlords’ pricing power.

**A. AIRM and YieldStar Have the Purpose and Effect of Distorting the Competitive Pricing of Apartments**

111. As RealPage frequently trumpets to landlords, “a rising tide raises all ships.” AIRM and YieldStar ensure that the ‘tide’ flows primarily one way—higher rental prices. In a hot market, AIRM and YieldStar will recommend price increases to test what the market will bear, while in a down market AIRM and YieldStar will, to the extent possible, still increase or hold prices and minimize price decreases to reach the target occupancy rate.

112. AIRM and YieldStar are designed to help landlords press pricing beyond what they could otherwise achieve while reducing the risk that other landlords would undercut them. A revenue manager at Landlord 2 explained it succinctly: YieldStar is “designed to always test the top of the market whenever it feels it’s safe to.” By using competitors’ sensitive nonpublic data to generate elasticity estimates, among other things, AIRM and YieldStar can recommend higher price increases to extract more money from renters without losing an additional lease. As RealPage explained to a YieldStar client in training, this pricing elasticity measurement informs “how far do we stretch and pull

pricing within the market.” That, in turn, means that “we may have a \$50 increase instead of a \$10 increase for that day.”

113. That insight, gleaned from competitors sharing sensitive, transactional data with RealPage, which is in turn shared with landlords through pricing recommendations, removes uncertainty and competitive pressure that benefits renters. As one landlord put it, these products “eliminate the guessing game” on rent.

114. As RealPage explains to its clients, AIRM and YieldStar reveal “hidden yield.” This extra yield or revenue is hidden in a competitive market—a market in which competitors do not share sensitive information with each other—because landlords “can’t see the opportunity” and “fail to capture [the] full opportunity.”

115. AIRM and YieldStar disrupt the normal competitive bargaining process between landlords and renters. They place landlords in a better negotiating position vis-à-vis renters. Landlords using AIRM and YieldStar know that these models recommend floor plan prices and price units incorporating nonpublic data of their competitors, including effective rents and occupancy rates, all of which allow landlords to raise price with more certainty.

116. As landlords appreciate, AIRM and YieldStar use competitors’ nonpublic data to predict with more certainty the highest price that the market will bear for a particular unit. A landlord is therefore less likely to negotiate on price. Any potential negotiation instead turns on lease term and move-in date, which AIRM and YieldStar adjust the pricing for to avoid overexposure for the landlord in the future.

117. AIRM and YieldStar also encourage landlords to follow each other in raising rents. When transactional data reveal that peers are raising effective rents—particularly the highest and lowest competitors for a given floor plan—AIRM and YieldStar follow with recommendations to increase rental prices. This movement with the market is ingrained in the AIRM and YieldStar models; AIRM and YieldStar will not recommend a floor plan price that falls below the market minimum.

118. Accordingly, as adoption of AIRM and YieldStar increases among peer competitors, the use of AIRM and YieldStar can push prices up through a feedback effect. As peers move up, other AIRM or YieldStar users may move up accordingly. This phenomenon, where participating landlords “likely move in unison versus against each other,” a RealPage executive testified, explains “the rising tide.” The same executive saw evidence of this “rising tide” in 2020: When looking at multiple peer sites using YieldStar, “we started to see the trajectory of performance and trends be eerily similar when comparing subject sites and comp sets, thus showing that we are in fact ‘r[a]ising the entire tide.’” He acknowledged that YieldStar contributed to market prices rising as a tide.

119. Landlords rely on competitors’ data within AIRM and YieldStar to determine their prices and how hard they need to try to be competitive. A revenue management director at Landlord 1 noted in an internal AIRM deck that competitors’ data is “like the boundaries of the street you are driving on.” The director elaborated that



“the competitive market range are [sic] the edges of the road, staying in those boundaries are [sic] necessary to get you to the destination.”

120. Another landlord that used YieldStar told RealPage that within a week of adopting YieldStar they started increasing their rents, and within eleven months had raised rents more than 25% and eliminated concessions. The landlord added that they were now pricing at the top of their peers and, importantly, had “brought the rest of the Comps rents up with us.” A RealPage executive responded internally that this was a “great case study that highlights performance before, during, and a result of YS [YieldStar].”

121. Landlord 6 explained in an internal presentation that because YieldStar recommends floor plan pricing that moves with the market—a market position—YieldStar would use competitors’ data to inform “how competitive we need to be [e]ach [d]ay.”

## Competing for the Pie

Demand is fixed, but our piece of the pie is variable

YieldStar recommends a Market Position every day, not a price

Previous achievement vs. Peers and Current need will determine *how competitive we need to be Each Day*



4

122. AIRM uses machine learning to train models on competing landlords' sensitive data. The parameters learned in this training are then applied to each AIRM client.<sup>6</sup> As a result, the model uses the same method and learned parameters to generate price recommendations from the relevant data for each landlord.

123. This aligns and stabilizes prices in at least two ways. First, it reduces volatility in *how* prices change, compared to a situation in which each client sets prices independently. No longer do competitors react in distinctive ways to changing market

---

<sup>6</sup> There are separate AI Supply models, and therefore potentially different learned model parameters, for clients using Yardi's property management software and clients using other property management software. But within these two categories the learned model parameters for the AI Supply models are the same.

conditions as they would in a market without access to competitors' transactional data. Instead, AIRM price recommendations tend to standardize those reactions. This leads to the second result: pricing recommendations, and consequently pricing decisions, become more predictable and aligned among competitors as each is using the same set of learned model parameters.

124. RealPage has even manipulated competitor mappings to increase the likelihood that AIRM or YieldStar would recommend price increases. For example, a prominent client asked why a subject property had mapped peers located more than 100 miles away, in a different metropolitan area, when there were satisfactory mapped competitors within five miles. RealPage's response was that if these distant properties were not mapped, the client's property would be at the top of the market and it would be more difficult for AIRM to recommend price increases. RealPage had originally mapped these distant properties to give the model more room to recommend price increases for the client's property.

125. This dynamic exists not only in markets with growing demand, but also so-called "down markets," where demand is decreasing. In a competitive market with a fixed supply (at least in the short run) of housing units, a demand decrease would result in prices falling. But AIRM and YieldStar resist price decreases in down markets as much as possible while achieving targeted occupancy rates. RealPage told one prospective AIRM client that the combination of "AI and the robust data in the RealPage ecosystem" would allow the landlord to "avoid the race to the bottom in down markets."

126. Using competitors' transactional data to calibrate and set the bounds of its model enables YieldStar and AIRM to decrease prices as little as possible in a down market. As one example, in 2023 a landlord reached out to RealPage with concerns about price recommendations at a property. Despite the property having too many vacancies and peer properties decreasing in price, AIRM was recommending price increases, frustrating the property owner. A senior RealPage executive responded that the model was not lowering prices because "there isn't much elasticity between the recommended position and the current one" and "the model would recommend the highest possible position [i.e., price] without affecting demand."

127. RealPage succinctly summarized for landlords the effect of using AIRM and YieldStar in down markets: it "curbs [clients'] instincts to respond to down-market conditions by either dramatically lowering price or by holding price when they are losing velocity and/or occupancy." These tools instill pricing discipline in landlords, curbing normal fully independent competitive reactions by substituting them with interdependent decision-making (i.e., through the use of pricing recommendations based on shared, competitively sensitive information). These products ensure that clients are "driving *every possible opportunity to increase price* even in the most downward trending or unexpected conditions."

128. When one client wanted to cancel YieldStar, a RealPage executive noted to colleagues that with cancelation the client would lose "our helping them mitigate damage

during rent control and covid.” In particular, the client would lose “us helping them rise with the tide given their strategy.”

129. Landlords understand the sensitivity of the information being shared and the likely anticompetitive effects. One potential client put it succinctly to RealPage: “I always liked this product [AIRM] because your algorithm uses proprietary data from other subscribers to suggest rents and term. That’s classic price fixing . . . .”

130. Landlord 3 recognized the anticompetitive potential of sharing this level of detailed competitor data. When a property owner asked for information on specific competitors, Landlord 3’s director of revenue management replied that the requested tool, RealPage’s Performance Analytics with Benchmarking, did not provide information on specific competitors. The reason? Performance Analytics with Benchmarking “tracks transactional information therefore due [to] the potential pricing collusion, it’s anonymize[d] by RealPage.” Performance Analytics with Benchmarking draws from the same transactional database as AIRM and YieldStar. And while AIRM and YieldStar do not display the granular transactional data to the user, AIRM and YieldStar see and use that data. The price recommendations are based upon the very data that this client recognized could lead to collusion.

131. Even RealPage employees selling LRO recognized the anticompetitive harm from using competitors’ transactional data to recommend prices. In a 2018 training deck provided to clients, RealPage explained, “we often times get the question about if comps are on LRO, can we just update the rents for you? Unfortunately, no, we can’t.

That could be considered price collusion, and it's illegal☺.” But this is precisely what AIRM and YieldStar do.

**B. AIRM and YieldStar Impose Multiple Guardrails Intended to Artificially Keep Prices High or Minimize Price Decreases**

132. Unsatisfied with relying merely on competitively sensitive data to advantage landlords, RealPage created “guardrails” within AIRM and YieldStar to force adjustments to the price recommendation. But these guardrails serve as one-way ratchets that help landlords, not renters, by increasing price recommendations or limiting a recommended decrease. And each of these guardrails makes use of competitively sensitive data that landlords agree to share with RealPage. These guardrails have even spurred multiple landlords to tell RealPage that AIRM and YieldStar are not dropping recommended rents as much as their individual conditions, or even market conditions, would warrant.

133. **Hard Floor.** AIRM and YieldStar will not recommend a floor plan price that falls below the smoothed market minimum effective rent. The market minimum is a hard floor. AIRM and YieldStar thus explicitly constrain floor plan price recommendations based on the prices of competitors, using shared nonpublic information.

134. **Revenue Protection Mode.** RealPage created a “revenue protection” mode that effectively lowers output to increase revenues. Revenue protection activates when AIRM or YieldStar predict—using calculations incorporating competitors’ data—that demand is too low for a landlord to meet its target occupancy. Rather than lowering the

price to stimulate demand, the algorithm reduces the target number of leases. AIRM and YieldStar then maximizes revenue for the *reduced* occupancy level, which tends to reduce price decreases or increase rental prices.

135. RealPage acknowledges that revenue protection “may seem counterintuitive to leasing needs.” In June 2023, a landlord complained to RealPage that “something in your model is broken” because “the pricing model is not lowering rents dramatically” despite the client’s high exposure during a busy summer leasing season. RealPage explained that, with revenue protection, “the model still sees the way to make more revenue is to lease fewer units at higher prices.” In other words, the model seeks to “raise rates to get the highest dollar value possible for the leases we can statistically achieve” and ignore those leases that the client wants but the model predicts, using competitors’ data, the client will not get.

136. The model’s hard price floor can trigger revenue protection mode. In May 2022, for example, a landlord complained that AIRM was recommending price increases despite a projected shortfall in leases. Because revenue protection mode cannot be turned off, the RealPage pricing advisor recommended that the client reduce sustainable capacity. Sustainable capacity is a client-set parameter that imposes an inventory constraint and determines the number of leases AIRM and YieldStar will try to achieve. This is, of course, what revenue protection mode functionally does on its own: increase inventory constraints to reduce output.

137. This phenomenon, a RealPage employee explained internally, was “true revenue protection mode.” The client’s floor plan was priced toward the bottom of its competitors. AIRM did not see any price decrease that would achieve the original target number of leases without dropping below the market floor (determined using competitors’ data). Because AIRM never recommends prices below the market floor, AIRM instead reduced the number of leases and optimized against that new, lower occupancy rate.

138. Revenue protection mode interrupts AIRM’s and YieldStar’s normal revenue maximization process. As a RealPage data scientist explained, “the model really wants to reduce rent but is prevented from doing so by the revenue protection restriction.” Revenue protection leads to higher prices and lower occupancy.

139. ***Sold-Out Mode.*** Once a landlord reaches its targeted capacity for a particular floor plan, the model considers that floor plan “sold out” even though units may still be physically available. In that situation, AIRM and YieldStar recommends the maximum rent charged by a property’s competitors, even if the floor plan’s previous price was far lower.

140. RealPage intentionally designed sold-out mode to use competitively sensitive data to lift rents. In an earlier version of the software, sold-out mode pushed rents to 95% of that floor plan’s highest recently achieved rent. But RealPage modified



the algorithm in 2022 to go “straight to 100% of comps,” deliberately aligning rents with competitors’ highest rents, rather than the property’s own historical performance.<sup>7</sup>

141. ***The Governor.*** AIRM and YieldStar favor recommended price increases over price decreases. When the model calculates that the current day’s “optimal” price will result in greater revenue than the previous day, a feature called the “governor” causes the model to recommend the current day’s optimal price.<sup>8</sup> But when AIRM or YieldStar calculates that the current day’s optimal price will result in less revenue than the previous day, the governor recommends the recent average price *even though it is not optimal for the current day*. In other words, when market conditions weaken and the model calculates that a price decrease is warranted, this guardrail kicks in and recommends keeping the recent rent even though it is suboptimal. This asymmetry favors price increases over price decreases.

142. The effect of these guardrails is intentionally asymmetric. AIRM and YieldStar recommend price increases generated by the model. But the guardrails reduce or eliminate certain proposed price decreases even though the model has determined such deviations may contravene the landlord’s individual economic interest.

---

<sup>7</sup> RealPage has at least considered changing this model logic because it introduced meaningful pricing volatility and significant price increases. Even if RealPage has implemented this proposed logic change, the new model logic still incorporates competitors’ confidential rents because AIRM and YieldStar recommend a market position that is tied to the bottom and top of the market, as defined by mapped competitors.

<sup>8</sup> In some circumstances AIRM will cap the floor plan recommended price increase at a five percent increase.

**C. AIRM and YieldStar Harm the Competitive Process by Discouraging the Use of Discounts and Price Negotiations**

143. RealPage discourages landlords using AIRM and YieldStar from discounting rents. In the multifamily property industry, discounts typically consist of “concessions,” which are financial allowances (such as a free month’s rent or waived fees) offered to incentivize renters. Concessions may be offered generally or negotiated individually with a potential tenant.

144. In a competitive marketplace, each landlord may independently decide to offer concessions so that it can better compete in enticing lessors. But, again, RealPage seeks to replace fully independent, competitive decision-making with collective action by ending concessions. AIRM and YieldStar do not work as well when landlords use one-off or lumpy concessions. In its “best practices” for revenue management to landlords, RealPage’s guidance is simple: “Eliminate concessions.” Detailed “best practices” documents for both YieldStar and AIRM users explain that “concessions will no longer be used in conjunction with” YieldStar and AIRM.

145. When onboarding a new property, RealPage emphasizes the importance of accepting price recommendations without offering discounts, including “no concessions.” Concessions cause landlords to deviate from what RealPage determines is the maximum revenue-generating price.

146. Landlords have worked to implement RealPage’s requests. In one YieldStar training, Landlord 1 explained that “Concessions are gone!” In a client-facing FAQ document about its revenue management products, RealPage explained that “the vast

majority of our clients have discontinued the use of concessions.” A 2023 RealPage client presentation showed that the number of units offering concessions generally trended downward from approximately 30% of units in 2013 to under 15% in 2023. A client’s refusal to offer concessions is bolstered by its awareness of competing landlords receiving the same advice from RealPage. In addition to discouraging discounts, RealPage discourages negotiating prices with renters. RealPage trains landlords that “YieldStar [or AIRM] is managing your Price,” so the landlord’s staff can focus on other things. The YieldStar or AIRM rent matrix is to be the source of prices that are given to a prospective renter. RealPage instructs leasing staff to provide prospective renters the specific price from the matrix that corresponds to the prospect’s desired move-in date, unit, and lease term. RealPage cautions landlords not to show renters the matrix itself.

**D. AIRM and YieldStar Increase and Maintain Landlords’ Pricing Power by Using Competitors’ Data to Manage Lease Expirations**

147. Supply is a basic component of pricing. For this reason, information on a company’s supply is highly sensitive, and its disclosure to competitors is particularly concerning. Yet AIRM and YieldStar use competitors’ supply data precisely for the purpose of adjusting unit-level pricing, regardless of whether the landlord accepts the floor plan price recommendation. The goal of this “lease expiration management” is clear: As a RealPage senior manager explained for a client, using this data means that the client’s property “will remain in a position of pricing power.”

148. The purpose of lease expiration management is to avoid too many units becoming available in the market at the same time. Expiration management only increases unit-level prices. It never reduces the price.

149. Every landlord can choose to use “market seasonality” to inform its lease expiration management. As the name suggests, market seasonality adjusts the landlord’s prices based on how many of its competitors’ units will be vacant—that is, *future supply*. This feature is popular among landlords. For example, one of the largest landlords in the United States uses it in 98% of its properties. Every single property that uses market seasonality is leveraging RealPage’s access to this highly sensitive, nonpublic data about its competitors’ supply to inform pricing.

150. When activated, the market seasonality function changes unit-level prices across the different possible lease terms *regardless* of whether the landlord accepts the AIRM or YieldStar floor plan price recommendation.

151. Fueled by competitor data, expiration management results in “increased stability” and “pricing power.” Using competitors’ data reduces the risk of overexposure that “could erode rent roll growth.” By adjusting price recommendations based on how much total supply is forecast in the market for a given time period, AIRM empowers landlords to charge higher prices than they could without access to competitors’ nonpublic data.

**E. No Procompetitive Benefit Justifies, Much Less Outweighs, RealPage's Use of Competitively Sensitive Data to Align Competing Landlords**

152. AIRM and YieldStar do not benefit the competitive process or renters. Any legitimate benefits of revenue management software can be achieved through less anticompetitive means, and any theoretical additional benefits of AIRM and YieldStar are not cognizable and outweighed by harm to the competitive process and to renters.

153. RealPage plans to remove LRO, a less restrictive alternative, from the market. LRO does not inherently contain the same competitive defects as AIRM and YieldStar. Unlike AIRM and YieldStar, LRO does not require the same type and quantity of nonpublic, transactional data pulled from competitors' property management software or obtained from contacting competing landlords. RealPage has already stopped offering LRO to new clients and plans to discontinue LRO for legacy clients by the end of 2024.

**V. REALPAGE USES LANDLORDS' COMPETITIVELY SENSITIVE DATA TO MAINTAIN ITS MONOPOLY AND EXCLUDE COMMERCIAL REVENUE MANAGEMENT SOFTWARE COMPETITORS**

154. Landlords are not the only ones that benefit from RealPage's rental pricing practices. RealPage benefits too through maintaining its monopoly over commercial revenue management software for conventional multifamily housing rentals. In that market, RealPage's internal documents reflect that it commands an 80% share.

155. RealPage's core value proposition creates a self-reinforcing feedback loop of data and scale advantages. The sharing of competitively sensitive information among rivals attracts more landlords that seek to maximize revenues and extract more money

from renters. As a result of its exclusionary conduct, RealPage has been able to obstruct rival software providers from competing on the merits via revenue management products that do not harm the competitive process.

156. Over time, RealPage has become more entrenched and has stymied alternatives unless they too enter into similar unlawful agreements with landlords to obtain and use nonpublic transactional data to price units. Even then, RealPage's unparalleled troves of competitively sensitive data provide an ill-gotten advantage.

**A. Landlords Are Drawn to RealPage Because of Access to Nonpublic Transactional Data That Is Used to Increase Landlords' Revenue**

157. Landlords prize RealPage's accumulation of nonpublic transactional data from competing landlords. For example, Landlord 1 noted that "RealPage supplies the best set of transactional data available via their millions of units of data --- this becomes a valuable source of truth to our competitive landscape." In a training document for its employees, the same landlord explained that "better data = better outcomes" and that AIRM has "over 15 million units of data available." From the perspective of Landlord 1, "pricing decisions start with data" and that precision in pricing "comes from data driven decisions." Importantly, the landlord believed that AIRM's ability to "examine data quality . . . each night" via its property management software integrations, including guest card entry, "plays an important role" in pricing.

158. As another example, Landlord 3 identified this data as especially helpful in a dense market because of insights into competitors' actions in the market. The same landlord also concluded that the more data points, the better confidence a landlord has in

RealPage’s rental recommendations. According to Landlord 3, more data—especially data about concessions—enabled the landlord to make better decisions because it showed the landlord where the market stood. Landlord 3’s director of revenue management explained to a colleague that YieldStar “collects about 14 MILLION transactional lease data across the US and has over 20 years of historical records.” The director acknowledged that “[t]his is huge! Essentially, this is a window into the market and the shifts we are going to experience . . . Having insight into this data, allows [landlords] to make changes with the dynamic changes in the market.”

159. Landlord 2, who compared AIRM to another commercial revenue management software product, noted that the competing product “is about half of the cost and does a good job in reviewing rents and making recommendations but does it without the additional reporting capabilities and market data that AIRM uses.” Ultimately, this landlord decided to push their owner clients towards AIRM. The landlord’s decision to use AIRM was in part based on receiving “more accurate and time sensitive data” and noted that, although revenue management is not changing, “the amount of data and how that information is used to grow revenue is bigger and better than ever” with AIRM.

160. Landlords want access to RealPage’s transactional data because RealPage advertises, and landlords believe, that the use of this data will increase a landlord’s revenue. “Due to the amount of data RealPage possesses,” Lessor 1 explained, RealPage developed AIRM “to leverage machine learning to improve both the supply and demand modeling and provide a tool to further customize to each asset’s needs.” The materials

sent to the landlord's clients also included a flyer explaining that AIRM will "outperform the market 2-7% year over year" and that it provides "[a]ctionable intelligence derived from the industry's largest lease transaction database of 13M+ units."

**B. RealPage's Collection and Use of Competitively Sensitive Data Excludes Competition in Commercial Revenue Management Software**

161. RealPage recognizes the barriers to competition on the merits that its data, scale, and business model provide. RealPage understands that "pricing decisions start with data." RealPage explains to its clients that "[t]he data entered into your [property management software] and collected each night, along with current market data (and lead data if OneSite) provides insight into advantageous demand drivers, identifies revenue risk and opportunity, and captures this competitive landscape for informed pricing."

162. This data and scale advantage is significant and creates a feedback loop that further increases barriers to competition for commercial revenue management software. RealPage touts its access to an "unmatched database." In one case from 2023, a RealPage sales representative noted that RealPage's "revenue management is the most widely adopted solution in the industry" and RealPage had "approximately 4.8M units on revenue management." In a 2023 presentation for AIRM, RealPage advertised that the "[a]mount of data we have (~17mm units) is unique to RealPage" and that the "[q]uality of data is best in class given that it is 'Lease Transaction Data.'" RealPage claimed this "supports that fact that the industry views RealPage as the source of truth for performance data."



163. RealPage has used this competitively sensitive data to develop an AI-driven revenue management solution that leverages the scale and scope of its data. RealPage’s plan to use this database as fuel for its AI pricing model is spelled out in a Go-To-Market summary from 2019. In that document, RealPage describes that:

RealPage can achieve \$10 Million in organic ACV growth through delivery of the next generation of revenue management. Failure to do so reduces the opportunity to harvest gains from our \$300M investment in LRO and places a portion of current \$100M revenue management revenue at risk to emerging competitors, including Yardi and low-cost alternatives that say ‘all revenue management is the same.’ Over time we can sunset YieldStar and LRO reducing expense, and leverage LRO capabilities as a revenue management lite offering.

164. This plan came to fruition with the introduction of AIRM. In a RealPage training presentation from February 2020—right before the launch of AIRM—RealPage discusses a new optimization solution that is built on the “RealPage Foundation” which is defined as “13.5m units of lease transactional data informing our models with real actionable intelligence in near real time.” As described earlier in the deck, RealPage’s competitors “lack the foundational capabilities on which to build upon” leaving RealPage with the possibility “to tie together each capability . . . in a single view.”

165. RealPage knows that its rivals do not have access to similar data sets. In one presentation from 2022, RealPage discussed competing revenue management products from Yardi and Entrata. Yardi and Entrata have fewer than 250,000 units, RealPage concluded, while RealPage had at least 4 million. Unlike RealPage, Yardi had a limited data set that used data only from Yardi’s property management software.

RealPage likewise explained that Entrata lacked much data outside of student housing and Entrata's revenue management software worked only with its own property management software, meaning Entrata could not pull data from RealPage's OneSite or other property management software products. RealPage further criticized manual in-house pricing options for having biased data, introducing errors through manual pricing, and being inefficient.

166. In June 2023 a landlord emailed RealPage and asked, "who are your competitors?" A RealPage sales executive responded, "Our revenue management solution does not have any true competitors, mainly because our data is based on real lease transaction data from all kinds of third-party property management systems . . . ."

167. In addition, when discussing a potential entrant, a RealPage executive noted that the entrant needed "to get the data to enable [revenue management]." He further noted that [g]etting the data (and more modern methods) . . . will be hurdles for [the entrant]." Another RealPage senior executive explained that shifting clients from LRO, which is less reliant on competitively sensitive information of rivals, to AIRM, which is very reliant on such information, reduced the threat from new entry when she noted that migrating LRO clients to AIRM was "critical to reducing the risk that may come from this new [entrant's] offering."

168. RealPage's power and conduct in connection with commercial revenue management software serves to exclude rivals. RealPage has ensured rivals cannot compete on the merits unless they enter into similar agreements with landlords, offer to

share competitively sensitive information among rival landlords, and engage in actions to increase compliance. As a result of its exclusionary conduct, RealPage has been able to obstruct rival software providers from competing via revenue management products that do not harm the competitive process in addition to cementing its massive data and scale advantage that keeps increasing due to feedback effects.

## **VI. RELEVANT MARKETS**

### **A. Conventional Multifamily Rental Housing Markets**

#### ***1. Product Markets***

169. Conventional multifamily rental housing is a relevant product market.

Conventional multifamily rental housing includes apartments available to the general public in properties that have five or more living units. Conventional rental housing does not include student housing, affordable housing, age-restricted or senior housing, or military housing. This product market reflects consumer preferences, industry practice, and governmental policy.

170. In 2023, RealPage estimated the conventional multifamily rental market to cover approximately 14 million units. The 2021 American Housing Survey estimated a total of 21.1 million multifamily apartments—not limited to conventional—in the United States.

#### ***a) Conventional Multifamily Rentals Are Distinct From Other Types of Multifamily Housing***

171. Other types of multifamily apartment buildings are not good substitutes for conventional multifamily rentals. Some kinds of multifamily buildings are restricted to

specific types of renters, such as student housing units, affordable housing units (i.e., income-restricted housing), senior (i.e., age-restricted) housing, and military housing. These housing units focused on different classes of renters are not reasonable substitutes for conventional multifamily rentals. RealPage distinguishes conventional multifamily as being in a different market segment from senior, affordable, and student housing in the ordinary course of business.

172. Non-conventional units are not widely available to all renters and can exhibit different buying patterns. For example, student housing serves individuals enrolled in higher education and is typically located on or near universities. Student housing is typically leased by the bed instead of by unit, and faces a significantly different leasing cycle and different patterns in renewals and leasing practices. Recognizing these differences, RealPage will assign to student properties surrogates that are distant student assets rather than nearby conventional assets. RealPage in fact offers a different version of both AIRM and OneSite, its property management software, for the “student market.”

173. Affordable housing units are available only to individuals or households whose income falls below certain thresholds. Multiple federal affordable housing regulations, for example, require participants in affordable housing programs to have incomes lower than a set percentage, such as 30%, of the median family income in the local area. Affordable housing units are also relatively scarce, with families seeking such housing often waiting years on a waitlist. These legal and practical restrictions prevent

affordable housing from being a reasonable substitute to conventional multifamily housing for the typical renter.

174. Senior housing is typically restricted to individuals aged 55 and older. RealPage separates senior housing into four categories: independent living, assisted living, memory care, and nursing care. Independent living offers senior-focused amenities—such as transportation, meals, and social gatherings among community members—that materially increase housing costs and are less desirable to younger households. The other three categories of senior housing provide professional or special care to assist renters with basic tasks like eating, bathing, and dressing, and they are not reasonable substitutes for conventional multifamily rentals.

175. Military housing is also not a reasonable substitute to conventional multifamily rentals. It is typically geographically proximate to military installations, with roughly 95% of military housing found on-base. Although civilians may in some cases be able to live in military housing properties experiencing low occupancy rates, military regulations place them below five higher-priority categories of potential renters, including active and retired military personnel.

***b) Single-Family Housing Is Not A Reasonable Substitute to Multifamily Rentals***

176. The multifamily industry, government regulators, and policy documents distinguish between properties with at least five units, which are classified as “multifamily housing” and those with fewer units, which are classified as “single-family rentals.”

177. The purchase of single-family homes is not a reasonable substitute for conventional multifamily housing rentals. A former RealPage economist explained that “the choice between renting and owning is first and foremost a life stage and lifestyle choice over a financial one.” Single-family homes also generally require a substantial down payment. In March 2023, a RealPage economist estimated an “entry premium” of \$800 per month to home ownership over rentals. According to a 2021 RealPage strategic planning guide, the “myth” that people were abandoning multifamily properties for single-family homes is false, stating that “rising home sales do not hurt apartment demand.” Single-family home sales are not reasonable substitutes for conventional multifamily housing.

178. More broadly, renters living in conventional multifamily apartments will not switch to single-family homes—purchases or rentals—because of a small increase in rent. The decision to move from an apartment building to a single-family home is primarily a life-stage and lifestyle choice. For example, the decision by a household to have children may spur a move to a single-family home. In many areas, relatively few children live in conventional multifamily apartments. Multifamily apartments typically offer community amenities and a different lifestyle, such as high walkability in an urban area, whereas single-family homes generally do not offer the same amenities and offer instead increased privacy, including private yards. A RealPage analyst explained in 2022 that because a move to a single-family home is a “lifestyle choice,” single-family home rentals were not direct competitors to multifamily rental housing. A 2022 RealPage deck,

shared with a landlord, stated that multifamily rentals and single-family rentals were “complementary, not competitive,” and targeted different renters, with different floor plans, in different locations. Another RealPage analyst explained to a multifamily property owner that single-family rentals offer a different renter profile than multifamily rentals.

179. Industry participants agree that single-family rentals attract a different pool of renters from multifamily rentals. A managing director of a single-family rental property management company explained in 2021 that a renter’s journey from multifamily apartment living to single-family rentals came as life stages evolved. The CEO of a single-family rental developer similarly explained that these single-family rental homes are for renters who age out of multifamily apartments.

180. Single-family rentals are also typically priced higher than multifamily apartments, further reducing potential substitution between them. The chairman of one institutional multifamily property owner explained in a 2022 earnings call that multifamily housing was relatively affordable compared to single-family rentals. An industry price index showed that, in March 2024, single-family rent was approximately 18% higher than multifamily rent.

***c) Conventional Multifamily Rental Units With Different Bedroom Counts Are Relevant Product Markets***

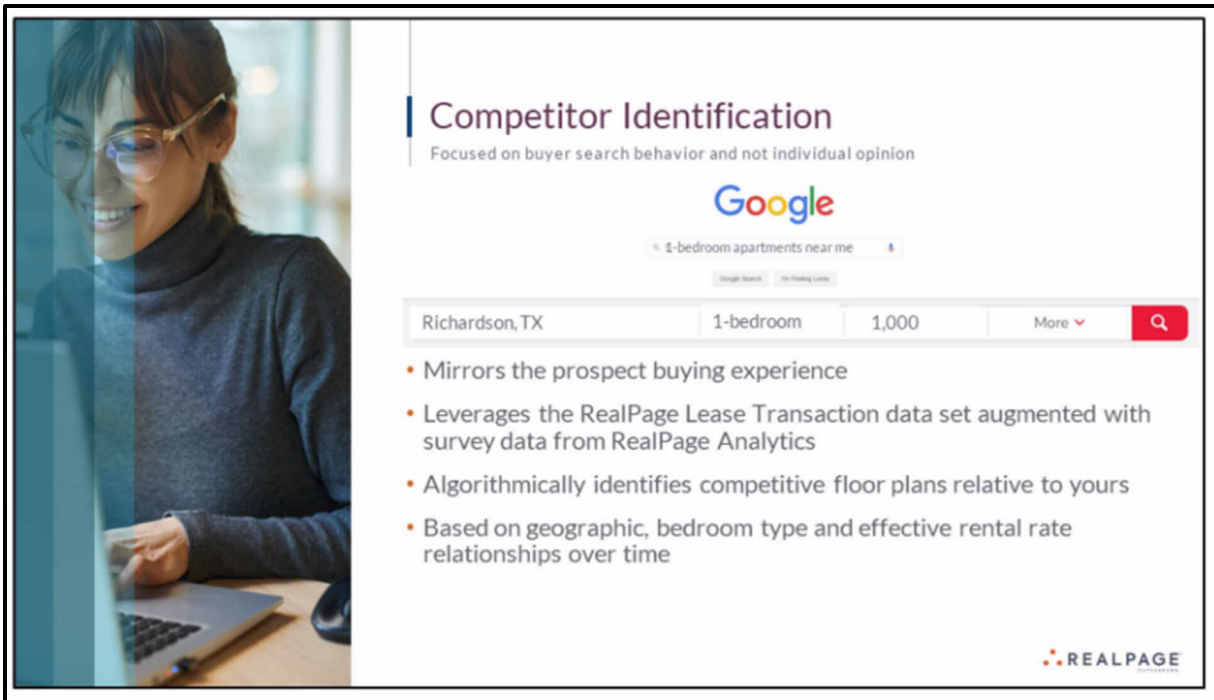
181. Different bedroom floor plans also constitute relevant product markets. A key criterion by which a current or prospective renter searches for a rental unit is the number of bedrooms. One-bedroom units are substitutes for other one-bedroom units,

two-bedroom units are substitutes for other two-bedroom units, and so forth. Individual renters may change their desired numbers of bedrooms, but this is typically tied to changes in circumstance independent from price. For example, the birth of a new child may require a family to shift from a one-bedroom unit to a two-bedroom unit.

182. RealPage adopts this practical reality in the ordinary course of business. For every property using AIRM or YieldStar, RealPage maps peer floor plans. These mapped floor plans capture reasonable substitutes for the subject property floor plan and reflect the perceived market by a prospective renter.

183. To be selected as a peer, a floor plan must have the same number of bedrooms. A RealPage employee explained the mapping process to a client: “we are looking specifically at the bedroom level. The tool will only map 2b[edroom] with 2b[edroom] or 1b[edroom] with 1b[edroom].” The object of mapping peers is to mirror the prospect buying experience by identifying properties that a potential tenant will see in online searches when searching for a particular floor plan and price range.





184. AIRM and YieldStar price the different floor plans, which consist of different numbers of bedrooms, independently. RealPage testified that the model considers no cross-price elasticity between different floor plans: “when you set up the different floor plans, a one bedroom, a two bedroom, or three bedroom, those are completely independent. . . . [T]here’s no influence in what the pricing is for the two bedrooms, for example . . . has no influence on what the pricing is for the one bedrooms.” Landlords also take steps to maintain a pricing spread between one- and two-bedroom units and avoid pricing one-bedrooms at a higher rate than two-bedroom units.

185. Landlords recognize that units with different bedroom counts face different demand from renters. For example, Landlord 1 explained internally in 2022 that demand for studio apartments differs from demand for three-bedroom units. A separate 2023 training by Landlord 1 reiterated that demand trends, and therefore pricing trends, differ

by bedroom counts and that staff should not react to a downward trend in one category, such as two bedrooms, with discounts in one- or three-bedroom units. A revenue manager at Landlord 2 similarly explained to colleagues that one-bedroom units have drastically different demand patterns from two-bedroom units and from three-bedroom units.

## ***2. Geographic Markets***

186. Defining relevant geographic markets help courts assess the potential anticompetitive impact of the agreements challenged. Here, the relevant geographic markets for the purposes of analyzing the anticompetitive effects of RealPage's agreements with landlords are the areas in which the sellers (the landlords) sell and in which the purchasers (potential renters) can practicably turn for alternatives. RealPage's agreements are alleged to have suppressed price competition in the markets for conventional multifamily housing. The relevant geographic markets to assess those agreements are those property locations close enough for their apartments to be considered reasonable substitutes. In delineating a geographic market for conventional multifamily housing, the focus is inherently local. Renters are typically tied to a particular location for work, family, or other needs.

187. RealPage recognizes the local nature of geographic markets. One RealPage former employee explained that under "Real Estate 101 rules, real estate is local, local, local." Another RealPage former chief economist noted that an effective evaluation of a property's performance must be done in comparison to similar properties in the property's neighborhood because competitive conditions in the neighborhood could differ

widely from the city at large. Similarly, a former property manager explained that potential tenants will look at a small number of properties in the same neighborhood, and it is on that neighborhood level where competition occurs among multifamily properties. This individual testified, “location really does matter in real estate.”

188. RealPage has created a tool called True Comps. Used in performance benchmarking products that provide decisional support to AIRM and YieldStar, True Comps provides a more accurate mapping of competitor properties. It uses an algorithm to find the properties most comparable to the subject property, as measured by characteristics including distance, effective rent, age, property height, and unit count and mix. By default, True Comps picks competitors within a 15-mile radius. In scoring distance, True Comps applies a “highly-punitive model”—the distance score drops from 99% for a distance of 0.05 miles, to 56% for a distance of 2 miles, and to 10% for a distance of 8 miles. Thus, RealPage acknowledges and incorporates small geographic areas as the appropriate location in which to find true competitive alternatives.

189. During a property’s implementation process, AIRM and YieldStar require the mapping of peer properties, including competitors. RealPage starts by looking for competitors within a half-mile radius from the subject property and then expands as necessary. Geographic proximity is in fact so important that YieldStar has a default radius that limits its search for competing properties to no more than 5 miles in urban settings, and to no more than 10 miles in suburban settings. RealPage has an internal process for escalating any proposed peer property that is more than 15 miles away.

*a) RealPage-Defined Submarkets Identify Relevant Geographic Markets*

190. RealPage defines geographic submarkets in the ordinary course of business. Each submarket reflects the geographic area, defined by a set of zip codes, that features similar properties that compete for the same pool of potential renters. In constructing submarkets, which are generally larger than its neighborhoods, RealPage considers major roads, city and county boundaries, and school districts. RealPage also considers socioeconomic factors and apartment market characteristics, such as the age of properties and rental rates.

191. Even within a city, apartment demand varies significantly based on factors such as employment. Supply may also vary widely as existing properties and new construction may be located in different parts of a city. A former RealPage chief economist explained that because “real estate is very local . . . you typically want to take a . . . more narrow view if you can on what’s going on in any given submarket.”<sup>9</sup>

192. The multifamily industry recognizes submarkets as an important geographic area for analyzing competition and pools of renters. Multiple industry analysts offer data by submarkets. A revenue management director at Landlord 1 testified about a submarket that “everybody in our industry uses this term.” She further stated that submarkets are a standard categorization system, used by RealPage and others, including to benchmark a subject property’s performance with comparable properties. A revenue

---

<sup>9</sup> RealPage also tracks data at a more granular level than a submarket, called a neighborhood.

manager at Landlord 3 circulated a scorecard comparing performance to the submarket, and exclaimed that “we’re perfectly aligned with the submarket” on rent roll.

193. A revenue management executive at Landlord 2 testified that submarkets identify specific, smaller areas of a city where renters look to live to be close to schools or work. This executive testified that submarkets typically identify the area within which a renter is comparing apartment options. This landlord tracks other properties’ rents in a subject property’s submarket to make sure the subject property remains competitive, and if rents in a submarket increased, then the landlord expected that its property in that submarket would also raise its rents.

194. Appendix A lists RealPage-defined submarkets that identify relevant local markets in which the agreements among RealPage and landlords to share nonpublic, competitively sensitive information for use in pricing conventional multifamily rentals have harmed, or are likely to harm, competition and thus renters.

195. The RealPage-defined submarkets identified in Appendix A are relevant markets in which the agreements between RealPage and AIRM and YieldStar users to align pricing has harmed, or is likely to harm, competition and thus renters. In each of these markets, the penetration rate for at least (i) AIRM and YieldStar, or (ii) AIRM, YieldStar, and OneSite ranges from at or around 29% to more than 60%.<sup>10</sup> In each of

---

<sup>10</sup> Including penetration rates for RealPage’s Business Intelligence and Performance Analytics with Benchmarking products, which landlord users agree to share nonpublic data with RealPage that RealPage then uses in AIRM and YieldStar, would increase the data

these markets, the landlords using AIRM or YieldStar and/or sharing competitively sensitive information have market power.

196. Appendix B identifies submarkets by bedroom count that are relevant markets in which the agreements between RealPage and landlords, and agreements among landlords, to share nonpublic, competitively sensitive information for use in pricing conventional multifamily rentals have harmed, or are likely to harm, competition and thus renters.

197. The markets identified in Appendix B are relevant markets in which the agreements between RealPage and landlords to align pricing has harmed, or is likely to harm, competition and thus renters. In each of these markets, the penetration rate for at least (i) AIRM and YieldStar, or (ii) AIRM, YieldStar, and OneSite ranges from at or around 28% to over 80%. In each of these markets, the landlords using AIRM or YieldStar and/or sharing competitively sensitive information have market power.

***b) Core-Based Statistical Areas (CBSAs) Are Relevant Geographic Markets***

198. A core-based statistical area (CBSA) is also a relevant geographic market. A CBSA is a geographic area based on a county or group of counties. A CBSA has at least one core of at least 10,000 individuals. A CBSA includes adjacent counties that have a high degree of social and economic integration with the core, as measured by commuting ties. A CBSA includes both metropolitan statistical areas and micropolitan

---

penetration rates subject to unlawful agreements for these and all other relevant conventional multifamily rental housing markets identified in the Complaint.

statistical areas. A CBSA includes the set of reasonable conventional multifamily rental alternatives to which a renter would turn in response to a small but significant, nontransitory price increase.

199. RealPage itself tracks CBSAs in the ordinary course of business and refers to them as “markets.”

200. Table 1 identifies relevant markets in which the agreements between RealPage and landlords, and agreements among landlords, to share nonpublic, competitively sensitive information for use in pricing conventional multifamily rentals have harmed, or are likely to harm, competition and/or consumers. In each of these markets, the penetration rate for at least (i) AIRM and YieldStar, or (ii) AIRM, YieldStar, and OneSite ranges from at or around 29% to 38%. Three of these markets are located in North Carolina.

**Table 1: Core-Based Statistical Area (CBSA) Markets**

Core-Based Statistical Area (CBSA) Markets
Atlanta-Sandy Springs-Roswell, GA
Austin-Round Rock, TX
Charleston-North Charleston, SC
Charlotte-Concord-Gastonia, NC-SC
Dallas-Fort Worth-Arlington, TX
Denver-Aurora-Lakewood, CO
Durham-Chapel Hill, NC
Nashville-Davidson--Murfreesboro--Franklin, TN
Orlando-Kissimmee-Sanford, FL
Raleigh, NC

201. The markets identified in Table 1 are relevant markets in which the agreements between RealPage and landlords to align pricing have harmed, or is likely to harm, competition and thus renters.

202. Table 2 identifies relevant CBSAs by bedroom counts that are relevant markets in which the agreements between RealPage and landlords, and agreements among landlords, to share nonpublic, competitively sensitive information for use in pricing conventional multifamily rentals have harmed, or are likely to harm, competition and/or consumers. In each of these markets, the penetration rate for at least (i) AIRM and YieldStar, or (ii) AIRM, YieldStar, and OneSite ranges from at or around 27% to nearly 40%.

**Table 2: Core-Based Statistical Area (CBSA) Markets by Bedroom Count**

Core-Based Statistical Area (CBSA) Markets	No. of Bedrooms
Atlanta-Sandy Springs-Roswell, GA	1
Atlanta-Sandy Springs-Roswell, GA	2
Austin-Round Rock, TX	1
Austin-Round Rock, TX	2
Charleston-North Charleston, SC	1
Charleston-North Charleston, SC	2
Charlotte-Concord-Gastonia, NC-SC	1
Charlotte-Concord-Gastonia, NC-SC	2
Dallas-Fort Worth-Arlington, TX	1
Dallas-Fort Worth-Arlington, TX	2
Denver-Aurora-Lakewood, CO	1
Denver-Aurora-Lakewood, CO	2
Durham-Chapel Hill, NC	1
Durham-Chapel Hill, NC	2
Nashville-Davidson--Murfreesboro--Franklin, TN	1



Core-Based Statistical Area (CBSA) Markets	No. of Bedrooms
Nashville-Davidson--Murfreesboro--Franklin, TN	2
Orlando-Kissimmee-Sanford, FL	1
Orlando-Kissimmee-Sanford, FL	2
Raleigh, NC	1
Raleigh, NC	2

203. The markets identified in Table 2 are relevant markets in which the agreements between RealPage and landlords to align pricing have harmed, or is likely to harm, competition and thus renters.

204. Even assuming available land and no regulatory constrictions, local markets for conventional multifamily rental housing feature substantial barriers to entry. Landlords seeking to respond to rising rental prices by expanding supply, rather than simply acquiring an existing property, typically face substantial lead times to construct a new multifamily property. Additionally, there are significant upfront capital costs, including to fund expenditures on building material and labor, that are recuperated over time, which may require landlords to secure financing.

#### **B. Commercial Revenue Management Software Market**

205. RealPage has monopoly power in the market for commercial revenue management software for conventional multifamily housing rentals in the United States, with a market share over 80%, according to internal documents and other information.

### *1. Product Market*

206. Commercial revenue management software for conventional multifamily housing rentals is a relevant antitrust product market.

207. Other methods for pricing conventional multifamily housing units are not reasonable substitutes for commercial revenue management software. RealPage and others in the industry recognize that revenue management software companies for multifamily housing units compete primarily against each other and not do-it-yourself pricing methods.

208. Internal documents from RealPage refer specifically to commercial revenue management for multifamily housing and recognize RealPage's substantial market share. For example, a 2021 strategy presentation described RealPage as "the market leader in commercial revenue management for multifamily [housing] with 45 of the 50 Top NMHC Owner and Operators" all using RealPage's revenue management products.

209. A presentation to RealPage's board in 2022 noted that "[RealPage] has gained [the] pole position in Revenue Management largely through the success of AI Revenue Management, which has become RealPage's leading differentiating product." Additionally, the presentation described how "Revenue Management is experiencing strong growth driven by AIRM" due to its "PMS agnostic approach" which gives RealPage the ability to aggregate data from its clients resulting in "revenue management [that] has achieved a market share of 95% of the top 50 owners and operators."

210. Likewise, a 2023 RealPage presentation reviewing the use of artificial intelligence in property technology noted that “RealPage is already the de facto market leader in certain key areas at leveraging AI for multifamily proptech” and shows “revenue management” as the area where it is the furthest ahead.” Later, the same presentation noted that RealPage’s current offer for revenue management is “best-in-class” and that “[n]o other company is cross-pollinating their pricing tools with data in a way similar to [RealPage].”

211. Landlords also recognize RealPage’s substantial market share. In a 2023 pricing dispute with a large landlord, RealPage refused to lower the price for its AIRM software. In response, an employee employed by the landlord noted that it was no surprise they would not decrease their price remarking that “[h]ere is the joy of a monopoly on a product category.” Around the same time in 2023, during a sales pitch to a property owner, a RealPage representative noted that “[RealPage] has 80% to 85% of the market share with the closest competitor around 12% (<750K units).”

## ***2. Geographic Market***

212. The United States is a relevant geographic market for commercial revenue management software. RealPage sells its commercial revenue management software in the United States and tracks its business in the United States in the ordinary course of business. RealPage sets its subscription prices on a nationwide basis. Further, RealPage can deploy its commercial revenue management software, which may use inputs from properties located throughout the country, in any U.S. state. Landlords in the United

States purchase commercial revenue management software from RealPage to set rental prices for renters in the United States. Many landlords have centralized revenue management teams that set nationwide revenue management policies and conduct revenue management trainings for their employees across the United States.

## **VII. JURISDICTION, VENUE, AND COMMERCE**

213. The United States brings this action pursuant to Section 4 of the Sherman Act, 15 U.S.C. § 4, to prevent and restrain RealPage's violations of Sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1, 2.

214. The Attorneys General assert these claims based on their independent authority to bring this action pursuant to Section 16 of the Clayton Act, 15 U.S.C. § 26, and common law, to obtain injunctive and other equitable relief based on RealPage's anticompetitive practices in violation of Sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1, 2.

215. The Attorneys General are the chief legal officers of their respective States. They have authority to bring actions to protect the economic well-being of their States and their residents, and to seek injunctive relief to remedy and protect against harm resulting from violations of the antitrust laws.

216. This Court has subject matter jurisdiction over this action under Section 4 of the Sherman Act, 15 U.S.C. § 4, and 28 U.S.C. §§ 1331, 1337(a), and 1345.

217. The Court has personal jurisdiction over RealPage; venue is proper in this District under Section 12 of the Clayton Act, 15 U.S.C. § 22, and under 28 U.S.C. § 1391 because RealPage transacts business and resides within this District.

218. RealPage is a privately-owned company organized and existing under the laws of the State of Delaware and is headquartered in Richardson, Texas. It is registered to do business in the State of North Carolina as a foreign corporation offering software solutions for the multifamily housing industry and software as a service.

219. RealPage engages in, and its activities substantially affect, interstate trade and commerce. RealPage provides a range of products and services that are marketed, distributed, and offered to consumers throughout the United States and across state lines.

220. The Durham-Chapel Hill CBSA is partially or entirely within the Middle District of North Carolina.

221. RealPage tracks the number of rental housing units that use its commercial revenue management software products, including AIRM and YieldStar, by market (i.e., a CBSA) and submarket, and several of these markets and submarkets are entirely or partially within North Carolina. These RealPage-defined markets include Raleigh/Durham, NC; Charlotte-Concord-Gastonia, NC-SC; Greensboro/Winston-Salem, NC; Wilmington, NC; Fayetteville, NC; and Asheville, NC. The submarkets include Southwest Durham, Northwest Durham/Downtown, and Chapel Hill/Carrboro, all of which are located entirely or partially within this District.

222. Landlord 1, Landlord 2, Landlord 3, Landlord 4, Landlord 5, and Landlord 6 each own or manage one or more properties in the Middle District of North Carolina for which they agree to share information and align pricing by using AIRM or YieldStar to generate rental pricing using pooled, competitively sensitive information.

223. A substantial part of the activities and conduct giving rise to the claims asserted in this Complaint occurred within this District. As alleged in paragraphs 194–197 above and Appendix A below, relevant local geographic markets in which competition and renters have been harmed by RealPage’s anticompetitive conduct include the RealPage-defined submarkets in Raleigh/Durham. As alleged in paragraphs 200–203 above, relevant geographic markets in which competition and renters have been harmed by RealPage’s anticompetitive conduct include the Durham–Chapel Hill CBSA.

### **VIII. VIOLATIONS ALLEGED**

#### ***First Claim for Relief: Violation of Section 1 of the Sherman Act by Unlawfully Sharing Information for Use in Competitors’ Pricing***

224. Plaintiffs incorporate the allegations of paragraphs 1 through 223 above.

225. Each landlord using AIRM and YieldStar has agreed with RealPage to provide RealPage daily nonpublic, competitively sensitive data. RealPage invites each landlord to share this information so that it can be pooled to generate pricing recommendations for the landlord and its competitors. Each of these landlords uses RealPage software, knowing or learning that RealPage will use this data to train its models and provide floor plan price recommendations and unit-level pricing not only for the landlord, but for the landlord’s competitors (and vice versa). Landlords are therefore

joining together in a way that deprives the market of fully independent centers of decision-making on pricing.

226. Each landlord using OneSite, Business Intelligence, or Performance Analytics with Benchmarking has agreed with RealPage to provide RealPage daily nonpublic, competitively sensitive data. RealPage invites each landlord to share this information, and each of these landlords understands that RealPage will use this data in RealPage's other products, including revenue management products.

227. The transactional data these landlords agree to provide to RealPage, and indirectly to each other, includes current, forward-looking, granular, and highly competitively sensitive information. It includes information on effective rents, rent discounts, occupancy rates, availability, lease dates, lease terms, unit amenities, and unit layouts. Landlords also shared information on guest cards and lease applications.

228. Landlords, including landlords that compete with each other in the relevant markets alleged, have agreed with one another, through RealPage and directly, to exchange nonpublic, competitively sensitive data, both through RealPage's revenue management software and by other means. The other means include RealPage user groups, direct communications, market surveys, and other intermediaries. The information exchanged includes future pricing plans, current pricing and occupancy rates, pricing discounts, and guest traffic.

229. RealPage uses this nonpublic, competitively sensitive data to train its AIRM models and provide floor plan price recommendations and unit-level pricing to

AIRM- and YieldStar-using landlords. AIRM and YieldStar are designed to increase prices as much as possible and minimize price decreases.

230. RealPage engages in a variety of conduct to increase compliance with the output of its products and the objectives it touts.

231. The sharing of nonpublic, competitively sensitive data with RealPage, and its use in AIRM and YieldStar, is anticompetitive. It harms or is likely to harm the competitive process and results, or is likely to result, in harm to renters and prospective renters in at least the relevant antitrust markets identified in this complaint.

232. In each relevant market, RealPage and participating landlords have sufficient market power, including market and data penetration, to harm the competitive process and renters.

233. AIRM and YieldStar do not benefit the competitive process or renters. Any theoretical benefits are outweighed by harm to the competitive process and to renters.

234. Less restrictive alternatives are available to RealPage and the market. RealPage's LRO product, for example, does not use competitors' nonpublic, competitively sensitive data in the same way and to the same extent as AIRM and YieldStar. RealPage has recently altered AIRM or YieldStar for a small number of clients to remove those clients' access to competitors' nonpublic data in at least certain portions of the model. RealPage has the ability to make changes to remove broader access to competitors' nonpublic data in AIRM and YieldStar.



***Second Claim for Relief: Violation of Section 1 of the Sherman Act Through Vertical Agreements with Landlords to Align Pricing***

235. Plaintiffs incorporate the allegations of paragraphs 1 through 234 above.

236. Each landlord that licenses AIRM or YieldStar has agreed with RealPage to use the software. This includes providing nonpublic, competitively sensitive transactional data to RealPage, but more broadly is an agreement to use AIRM or YieldStar as the means to price the landlord's rental units. The landlord agrees to review AIRM or YieldStar floor plan price recommendations, use AIRM or YieldStar to set a scheduled floor plan rent, and use the AIRM or YieldStar pricing matrix to price units to renters.

237. AIRM and YieldStar are designed to "raise the tide" for all landlords, including AIRM- and YieldStar-using landlords. AIRM and YieldStar have the likely effect of aligning users' pricing processes, strategies, and pricing responses.

238. These landlords understand this effect, and it is a reason why they sign up for and use AIRM or YieldStar and discuss their usage with one another in user group meetings and other settings.

239. RealPage engages in a variety of conduct to increase compliance with the output of its products and the objectives it touts.

240. The agreement between each AIRM or YieldStar landlord and RealPage to use AIRM or YieldStar, respectively, harms or is likely to harm the competitive process and renters.

241. The agreement by a landlord to use AIRM or YieldStar is an agreement to align users' pricing processes, strategies, and pricing responses. It is harmful to the competitive process and to renters.

242. In each relevant submarket and CBSA, RealPage and participating AIRM or YieldStar landlords have sufficient market power, including market and data penetration, to harm the competitive process and renters.

243. AIRM and YieldStar do not benefit the competitive process or renters. Any theoretical benefits are outweighed by harm to the competitive process and to renters, and less restrictive alternatives are available to RealPage and these landlords.

***Third Claim for Relief: Violation of Section 2 of the Sherman Act Through Monopolization of the Commercial Revenue Management Software Market***

244. Plaintiffs incorporate the allegations of paragraphs 1 through 243 above.

245. Commercial revenue management software for conventional multifamily housing rentals in the United States is a relevant antitrust market, and RealPage has monopoly power in that market.

246. RealPage has unlawfully monopolized the commercial revenue management market through unlawful exclusionary conduct. RealPage has amassed a massive reservoir of competitively sensitive data from competing landlords. RealPage has ensured that rivals cannot compete on the merits unless they enter into similar agreements with landlords, offer to share competitively sensitive information among rival landlords, and engage in actions to increase compliance. As a result of its exclusionary conduct, RealPage has been able to obstruct rival software providers from competing via

revenue management products that do not harm the competitive process in addition to cementing its massive data and scale advantage that keeps increasing due to self-reinforcing feedback effects.

247. RealPage's anticompetitive acts have harmed the competitive process and renters.

248. RealPage's exclusionary conduct lacks a procompetitive justification that offsets the harm caused by RealPage's anticompetitive and unlawful conduct.

***Fourth Claim for Relief, in the Alternative: Violation of Section 2 of the Sherman Act Through Attempted Monopolization of the Commercial Revenue Management Software Market***

249. Plaintiffs incorporate the allegations of paragraphs 1 through 248 above.

250. Commercial revenue management software for conventional multifamily housing rentals in the United States is a relevant antitrust market.

251. RealPage has attempted to monopolize that market through unlawful exclusionary conduct enhanced by its self-reinforcing data and scale advantages. By amassing its massive reservoir of competitively sensitive data from competing landlords and the follow-on benefits that scale and its feedback effects provide in terms of blunting competition among landlords, RealPage's conduct excludes commercial revenue management rivals from competing on the merits in a lawful manner. As such, it has increased, maintained, or protected RealPage's power.

252. RealPage's anticompetitive acts have harmed the competitive process and renters.

253. RealPage has acted with a specific intent to monopolize, and to eliminate effective competition in, the commercial revenue management software market in the United States. There is a dangerous probability that, unless restrained, RealPage will succeed in monopolizing the commercial revenue management software market in violation of Section 2 of the Sherman Act.

**IX. REQUEST FOR RELIEF**

254. To remedy these illegal acts, Plaintiffs request that the Court:

- a. Adjudge and decree that RealPage has acted unlawfully to restrain trade in conventional multifamily rental housing markets across the United States in violation of Section 1 of the Sherman Act, 15 U.S.C. § 1;
- b. Adjust and decree that RealPage has acted unlawfully to monopolize, or attempt to monopolize, the commercial revenue management software market in the United States in violation of Section 2 of the Sherman Act, 15 U.S.C. § 2;
- c. Enjoin RealPage from continuing to engage in the anticompetitive practices described herein and from engaging in any other practices with the same purpose and effect as the challenged practices;
- d. Enter any other preliminary or permanent relief necessary and appropriate to restore competitive conditions in the markets affected by RealPage's unlawful conduct;

- e. Enter any additional relief the Court finds just and proper; and
- f. Award Plaintiffs an amount equal to their costs, including reasonable attorneys' fees, incurred in bringing this action.

Dated this 23rd day of August, 2024.

Respectfully submitted,

**FOR PLAINTIFF UNITED STATES OF AMERICA:**

JONATHAN S. KANTER  
Assistant Attorney General for Antitrust

/s/ Henry C. Su\*  
HENRY C. SU  
Senior Litigation Counsel

DOHA MEKKI  
Principal Deputy Assistant Attorney  
General for Antitrust

/s/ David A. Geiger  
DAVID A. GEIGER  
SARAH M. BARTELS  
MARKUS A. BRAZILL  
JESSICA BUTLER-ARKOW  
IAN HOFFMAN  
JOHN J. HOGAN  
CLAIRE M. MADDOX  
ARSHIA NAJAFI  
JARIEL A. RENDELL  
CHRISTINE SOMMER  
ANDREW TISINGER

HETAL J. DOSHI  
Deputy Assistant Attorney General for  
Antitrust

ANDREW J. FORMAN  
Deputy Assistant Attorney General for  
Antitrust

RYAN DANKS  
Director of Civil Enforcement

CATHERINE K. DICK  
Acting Director of Litigation

GEORGE C. NIERLICH  
Deputy Director of Civil Enforcement

AARON HOAG  
Chief  
Technology & Digital Platforms Section

DANIELLE HAUCK  
Assistant Chief  
Technology & Digital Platforms Section

ADAM SEVERT  
Assistant Chief  
Technology & Digital Platforms Section

Attorneys  
United States Department of Justice  
Antitrust Division  
450 Fifth Street N.W., Suite 7100  
Washington, DC 20530  
Telephone: (202) 307-6200  
Email: henry.su@usdoj.gov

\* LEAD ATTORNEY TO BE NOTICED

**FOR PLAINTIFF STATE OF NORTH CAROLINA:**

JOSHUA H. STEIN  
Attorney General of North Carolina

SARAH G. BOYCE  
Deputy Attorney General & General Counsel

JASMINE S. MCGHEE  
Senior Deputy Attorney General

*/s/ Kunal J. Choksi*  
KUNAL J. CHOKSI  
Special Deputy Attorney General  
N.C. Bar. No. 55666

JESSICA V. SUTTON  
Special Deputy Attorney General  
N.C. Bar No. 41652  
North Carolina Department of Justice  
114 W. Edenton Street  
Raleigh, NC 27603  
Telephone: 919-716-6032  
Email: kchoksi@ncdoj.gov

*Attorneys for Plaintiff State of North Carolina*

**FOR PLAINTIFF STATE OF CALIFORNIA:**

ROB BONTA

Attorney General of California

/s/ Doan-Phuong (Pamela) Pham

PAULA L. BLIZZARD, Senior Assistant Attorney General

MICHAEL JORGENSON, Supervising Deputy Attorney General

DOAN-PHUONG (PAMELA) PHAM, Deputy Attorney General

QUYEN TOLAND, Deputy Attorney General

Office of the Attorney General

California Department of Justice

300 South Spring Street, Suite 1702

Los Angeles, CA 90013

Tel: (213) 269-6000

Email: Pamela.Pham@doj.ca.gov

*Attorneys for Plaintiff State of California*

*Notices of Special Appearance forthcoming*



**FOR PLAINTIFF STATE OF COLORADO:**

PHILIP J. WEISER  
Attorney General

*/s/ Bryn Williams*

BRYN A. WILLIAMS  
First Assistant Attorney General  
Colorado Department of Law  
1300 Broadway, 7th Floor  
Denver, CO 80203  
Telephone: (720) 508-6000  
Email: Bryn.Williams@coag.gov

*Attorney for Plaintiff State of Colorado  
Notice of Special Appearance forthcoming*

**FOR PLAINTIFF STATE OF CONNECTICUT:**

WILLIAM TONG  
Attorney General of Connecticut

JEREMY PEARLMAN  
Associate Attorney General

NICOLE DEMERS  
Deputy Associate Attorney General

*/s/ Julián A. Quiñones Reyes*  
JULIÁN A. QUIÑONES REYES  
Assistant Attorney General

Office of the Attorney General of Connecticut  
165 Capitol Avenue  
Hartford, CT 06106  
Telephone: (860) 808-5030  
Fax: (860) 808-5391  
Email: julian.quinones@ct.gov

*Attorneys for Plaintiff State of Connecticut  
Notices of Special Appearance forthcoming*

**FOR PLAINTIFF STATE OF MINNESOTA:**

KEITH ELLISON  
ATTORNEY GENERAL

JAMES CANADAY  
Deputy Attorney General

*s/Katherine A. Moerke*

KATHERINE A. MOERKE

ELIZABETH ODETTE

SARAH DOKTORI

Assistant Attorneys General

Office of the Minnesota Attorney General, Suite 1400

445 Minnesota Street

St. Paul, MN 55101

Telephone: (651) 757-1433

katherine.moerke@ag.state.mn.us

elizabeth.odette@ag.state.mn.us

sarah.doktori@ag.state.mn.us

*Attorneys for Plaintiff State of Minnesota  
Notices of Special Appearance forthcoming*

**FOR PLAINTIFF STATE OF OREGON:**

ELLEN F. ROSENBLUM  
Attorney General of Oregon

/s/ Timothy D. Smith

Timothy D. Smith  
Senior Assistant Attorney General  
Antitrust and False Claims Unit  
Oregon Department of Justice  
100 SW Market St, Portland OR 97201  
971.673.3885 | tim.smith@doj.oregon.gov

*Attorneys for Plaintiff State of Oregon  
Notices of Special Appearance forthcoming*

**FOR PLAINTIFF STATE OF TENNESSEE:**

Jonathan Skrmetti  
Attorney General

/s/ J. David McDowell

David McDowell  
Deputy Attorney General  
S. Ethan Bowers  
Senior Assistant Attorney General  
Daniel Lynch  
Assistant Attorney General  
Consumer Protection Division  
Office of the Tennessee Attorney General  
P.O. Box 20207  
Nashville, Tennessee 37202  
ethan.bowers@ag.tn.gov  
daniel.lynch@ag.tn.gov

*Attorneys for Plaintiff State of Tennessee  
Notices of Special Appearance forthcoming*

**FOR PLAINTIFF STATE OF WASHINGTON:**

ROBERT W. FERGUSON  
Attorney General

/s/ Brian H. Rowe

BRIAN H. ROWE, WSBA #56817  
RACHEL LUMEN, WSBA #47918  
SARAH SMITH-LEVY, WSBA #55770  
KENDALL SCOTT COWLES, WSBA #57919  
Assistant Attorneys General  
800 Fifth Avenue, Suite 2000  
Seattle, WA 98104-3188  
(206) 464-7744  
brian.rowe@atg.wa.gov  
rachel.lumen@atg.wa.gov  
sarah.e.smith-levy@atg.wa.gov  
kendall.scottcowles@atg.wa.gov

*Attorney for Plaintiff State of Washington  
Notice of Special Appearance forthcoming*

**APPENDIX A: SUBMARKETS**

Area	Submarket
Anaheim-Santa Ana-Irvine, CA	South Orange County
Atlanta-Sandy Springs-Roswell, GA	Alpharetta/Cumming
Atlanta-Sandy Springs-Roswell, GA	Briarcliff
Atlanta-Sandy Springs-Roswell, GA	Buckhead
Atlanta-Sandy Springs-Roswell, GA	Chamblee/Brookhaven
Atlanta-Sandy Springs-Roswell, GA	Duluth
Atlanta-Sandy Springs-Roswell, GA	Dunwoody
Atlanta-Sandy Springs-Roswell, GA	Kennesaw/Acworth
Atlanta-Sandy Springs-Roswell, GA	Midtown Atlanta
Atlanta-Sandy Springs-Roswell, GA	Norcross
Atlanta-Sandy Springs-Roswell, GA	Northeast Cobb/Woodstock
Atlanta-Sandy Springs-Roswell, GA	Roswell
Atlanta-Sandy Springs-Roswell, GA	Sandy Springs
Atlanta-Sandy Springs-Roswell, GA	Smyrna
Atlanta-Sandy Springs-Roswell, GA	Southeast Gwinnett County
Atlanta-Sandy Springs-Roswell, GA	Southeast Marietta
Atlanta-Sandy Springs-Roswell, GA	Southwest Atlanta
Atlanta-Sandy Springs-Roswell, GA	Vinings
Austin-Round Rock, TX	Arboretum
Austin-Round Rock, TX	Cedar Park
Austin-Round Rock, TX	Far South Austin
Austin-Round Rock, TX	Far West Austin
Austin-Round Rock, TX	Near North Austin
Austin-Round Rock, TX	Northwest Austin
Austin-Round Rock, TX	Pflugerville/Wells Branch
Austin-Round Rock, TX	South Austin
Austin-Round Rock, TX	Southwest Austin
Baltimore-Columbia-Towson, MD	Columbia/North Laurel
Birmingham-Hoover, AL	Southeast Birmingham
Boston-Cambridge-Newton, MA-NH	Chelsea/Revere/Charlestown
Boston-Cambridge-Newton, MA-NH	West Norfolk County
Charleston-North Charleston, SC	Downtown/Mount Pleasant/Islands
Charleston-North Charleston, SC	West Ashley
Charlotte-Concord-Gastonia, NC-SC	Ballantyne
Charlotte-Concord-Gastonia, NC-SC	Huntersville/Cornelius
Charlotte-Concord-Gastonia, NC-SC	Myers Park
Charlotte-Concord-Gastonia, NC-SC	South Charlotte

Area	Submarket
Charlotte-Concord-Gastonia, NC-SC	UNC Charlotte
Charlotte-Concord-Gastonia, NC-SC	Uptown/South End
Colorado Springs, CO	North Colorado Springs
Columbus, OH	Gahanna/Northeast Columbus
Dallas-Plano-Irving, TX	Addison/Bent Tree
Dallas-Plano-Irving, TX	Allen/McKinney
Dallas-Plano-Irving, TX	Carrollton/Farmers Branch
Dallas-Plano-Irving, TX	East Dallas
Dallas-Plano-Irving, TX	Frisco
Dallas-Plano-Irving, TX	Grand Prairie
Dallas-Plano-Irving, TX	Intown Dallas
Dallas-Plano-Irving, TX	Las Colinas/Coppell
Dallas-Plano-Irving, TX	North Irving
Dallas-Plano-Irving, TX	Oak Lawn/Park Cities
Dallas-Plano-Irving, TX	Richardson
Dallas-Plano-Irving, TX	Rockwall/Rowlett/Wylie
Dallas-Plano-Irving, TX	The Colony/Far North Carrollton
Dallas-Plano-Irving, TX	West Plano
Denver-Aurora-Lakewood, CO	Broomfield
Denver-Aurora-Lakewood, CO	Highlands Ranch
Denver-Aurora-Lakewood, CO	Littleton
Denver-Aurora-Lakewood, CO	North Aurora
Denver-Aurora-Lakewood, CO	Southeast Aurora/East Arapahoe County
Denver-Aurora-Lakewood, CO	Tech Center
Denver-Aurora-Lakewood, CO	Westminster
Fort Lauderdale-Pompano Beach-Deerfield Beach, FL	Plantation/Davie/Weston
Fort Worth-Arlington, TX	Grapevine/Southlake
Fort Worth-Arlington, TX	Northeast Fort Worth/North Richland Hills
Houston-The Woodlands-Sugar Land, TX	Bear Creek
Houston-The Woodlands-Sugar Land, TX	Downtown/Montrose/River Oaks
Houston-The Woodlands-Sugar Land, TX	Far West Houston
Houston-The Woodlands-Sugar Land, TX	Friendswood/Pearland
Houston-The Woodlands-Sugar Land, TX	Galleria/Uptown
Houston-The Woodlands-Sugar Land, TX	Greater Heights/Washington Avenue
Houston-The Woodlands-Sugar Land, TX	Greenway/Upper Kirby



Area	Submarket
Houston-The Woodlands-Sugar Land, TX	Katy
Houston-The Woodlands-Sugar Land, TX	Memorial
Houston-The Woodlands-Sugar Land, TX	Sugar Land/Stafford
Houston-The Woodlands-Sugar Land, TX	The Woodlands
Houston-The Woodlands-Sugar Land, TX	West University/Medical Center/Third Ward
Jacksonville, FL	Baymeadows
Jacksonville, FL	Upper Southside
Kansas City, MO-KS	Lee's Summit/Blue Springs/Raytown
Lansing-East Lansing, MI	East Lansing
Las Vegas-Henderson-Paradise, NV	Henderson
Las Vegas-Henderson-Paradise, NV	Northwest Las Vegas
Las Vegas-Henderson-Paradise, NV	Summerlin/The Lakes
Memphis, TN-MS-AR	Cordova/Bartlett
Memphis, TN-MS-AR	Germantown/Collierville
Mobile/Daphne, AL	North Mobile
Nashville-Davidson--Murfreeseboro--Franklin, TN	Central Nashville
Nashville-Davidson--Murfreeseboro--Franklin, TN	South Nashville
Nashville-Davidson--Murfreeseboro--Franklin, TN	West Nashville
Orlando-Kissimmee-Sanford, FL	Casselberry/Winter Springs/Oviedo
Orlando-Kissimmee-Sanford, FL	Central Orlando
Orlando-Kissimmee-Sanford, FL	East Orange County
Orlando-Kissimmee-Sanford, FL	East Orlando
Orlando-Kissimmee-Sanford, FL	Sanford/Lake Mary
Orlando-Kissimmee-Sanford, FL	South Orange County
Orlando-Kissimmee-Sanford, FL	Southwest Orlando
Orlando-Kissimmee-Sanford, FL	Winter Park/Maitland
Phoenix-Mesa-Scottsdale, AZ	Chandler
Phoenix-Mesa-Scottsdale, AZ	Deer Valley
Phoenix-Mesa-Scottsdale, AZ	North Glendale
Phoenix-Mesa-Scottsdale, AZ	South Phoenix
Portland-Vancouver-Hillsboro, OR-WA	Aloha/West Beaverton
Portland-Vancouver-Hillsboro, OR-WA	Central Portland
Raleigh/Durham, NC	Central Raleigh
Raleigh/Durham, NC	Chapel Hill/Carrboro

Area	Submarket
Raleigh/Durham, NC	Far North Raleigh
Raleigh/Durham, NC	Near North Raleigh
Raleigh/Durham, NC	North Cary/Morrisville
Raleigh/Durham, NC	Northeast Raleigh
Raleigh/Durham, NC	Northwest Durham/Downtown
Raleigh/Durham, NC	Northwest Raleigh
Raleigh/Durham, NC	South Cary/Apex
Raleigh/Durham, NC	Southwest Durham
Reno, NV	South Reno
Richmond, VA	Northwest Richmond
Richmond, VA	Tuckahoe/Westhampton
Riverside-San Bernardino-Ontario, CA	Rancho Cucamonga/Upland
Riverside-San Bernardino-Ontario, CA	Temecula/Murrieta
Salt Lake City/Ogden/Clearfield, UT	Southwest Salt Lake City
San Antonio-New Braunfels, TX	Far North Central San Antonio
San Antonio-New Braunfels, TX	Far Northwest San Antonio
San Antonio-New Braunfels, TX	North Central San Antonio
San Antonio-New Braunfels, TX	Northwest San Antonio
San Diego-Carlsbad, CA	Northeast San Diego
Seattle-Bellevue-Everett, WA	Redmond
Seattle-Bellevue-Everett, WA	Renton
Tampa-St. Petersburg-Clearwater, FL	Carrollwood/Citrus Park
Tampa-St. Petersburg-Clearwater, FL	Central Tampa
Tampa-St. Petersburg-Clearwater, FL	Town and Country/Westchase
Tucson, AZ	Casas Adobes/Oro Valley
Tucson, AZ	Catalina Foothills
Washington-Arlington-Alexandria, DC-VA-MD-WV	Germantown
Washington-Arlington-Alexandria, DC-VA-MD-WV	Loudoun County
Washington-Arlington-Alexandria, DC-VA-MD-WV	Navy Yard/Capitol South
Washington-Arlington-Alexandria, DC-VA-MD-WV	Reston/Herndon
Washington-Arlington-Alexandria, DC-VA-MD-WV	West Alexandria
Washington-Arlington-Alexandria, DC-VA-MD-WV	West Fairfax County

**APPENDIX B: SUBMARKETS BY BEDROOM COUNT**

Area	Submarket	No. of Bedrooms
Anaheim-Santa Ana-Irvine, CA	South Orange County	1
Atlanta-Sandy Springs-Roswell, GA	Alpharetta/Cumming	1
Atlanta-Sandy Springs-Roswell, GA	Briarcliff	1
Atlanta-Sandy Springs-Roswell, GA	Buckhead	1
Atlanta-Sandy Springs-Roswell, GA	Chamblee/Brookhaven	1
Atlanta-Sandy Springs-Roswell, GA	Duluth	1
Atlanta-Sandy Springs-Roswell, GA	Dunwoody	1
Atlanta-Sandy Springs-Roswell, GA	Kennesaw/Acworth	1
Atlanta-Sandy Springs-Roswell, GA	Midtown Atlanta	1
Atlanta-Sandy Springs-Roswell, GA	Norcross	1
Atlanta-Sandy Springs-Roswell, GA	Northeast Cobb/Woodstock	1
Atlanta-Sandy Springs-Roswell, GA	Roswell	1
Atlanta-Sandy Springs-Roswell, GA	Sandy Springs	1
Atlanta-Sandy Springs-Roswell, GA	Smyrna	1
Atlanta-Sandy Springs-Roswell, GA	Southeast Gwinnett County	1
Atlanta-Sandy Springs-Roswell, GA	Southeast Marietta	1
Atlanta-Sandy Springs-Roswell, GA	Southwest Atlanta	1
Atlanta-Sandy Springs-Roswell, GA	Vinings	1
Austin-Round Rock, TX	Arboretum	1
Austin-Round Rock, TX	Cedar Park	1
Austin-Round Rock, TX	Far South Austin	1
Austin-Round Rock, TX	Far West Austin	1
Austin-Round Rock, TX	Near North Austin	1
Austin-Round Rock, TX	Northwest Austin	1
Austin-Round Rock, TX	Pflugerville/Wells Branch	1
Austin-Round Rock, TX	South Austin	1
Austin-Round Rock, TX	Southwest Austin	1
Baltimore-Columbia-Towson, MD	Columbia/North Laurel	1
Birmingham-Hoover, AL	Southeast Birmingham	1
Boston-Cambridge-Newton, MA-NH	West Norfolk County	1
Charleston-North Charleston, SC	Downtown/Mount Pleasant/Islands	1
Charleston-North Charleston, SC	West Ashley	1
Charlotte-Concord-Gastonia, NC-SC	Ballantyne	1
Charlotte-Concord-Gastonia, NC-SC	Huntersville/Cornelius	1

Area	Submarket	No. of Bedrooms
Charlotte-Concord-Gastonia, NC-SC	Myers Park	1
Charlotte-Concord-Gastonia, NC-SC	South Charlotte	1
Charlotte-Concord-Gastonia, NC-SC	UNC Charlotte	1
Charlotte-Concord-Gastonia, NC-SC	Uptown/South End	1
Colorado Springs, CO	North Colorado Springs	1
Dallas-Plano-Irving, TX	Addison/Bent Tree	1
Dallas-Plano-Irving, TX	Allen/McKinney	1
Dallas-Plano-Irving, TX	Carrollton/Farmers Branch	1
Dallas-Plano-Irving, TX	East Dallas	1
Dallas-Plano-Irving, TX	Frisco	1
Dallas-Plano-Irving, TX	Grand Prairie	1
Dallas-Plano-Irving, TX	Intown Dallas	1
Dallas-Plano-Irving, TX	Las Colinas/Coppell	1
Dallas-Plano-Irving, TX	North Irving	1
Dallas-Plano-Irving, TX	Oak Lawn/Park Cities	1
Dallas-Plano-Irving, TX	Richardson	1
Dallas-Plano-Irving, TX	Rockwall/Rowlett/Wylie	1
Dallas-Plano-Irving, TX	The Colony/Far North Carrollton	1
Dallas-Plano-Irving, TX	West Plano	1
Denver-Aurora-Lakewood, CO	Broomfield	1
Denver-Aurora-Lakewood, CO	Highlands Ranch	1
Denver-Aurora-Lakewood, CO	Littleton	1
Denver-Aurora-Lakewood, CO	Southeast Aurora/East Arapahoe County	1
Denver-Aurora-Lakewood, CO	Tech Center	1
Denver-Aurora-Lakewood, CO	Westminster	1
Fort Lauderdale-Pompano Beach-Deerfield Beach, FL	Plantation/Davie/Weston	1
Fort Worth-Arlington, TX	Grapevine/Southlake	1
Fort Worth-Arlington, TX	Northeast Fort Worth/North Richland Hills	1
Hartford-West Hartford-East Hartford, CT	Southeast Hartford/Middlesex County	1
Houston-The Woodlands-Sugar Land, TX	Bear Creek	1

Area	Submarket	No. of Bedrooms
Houston-The Woodlands-Sugar Land, TX	Downtown/Montrose/River Oaks	1
Houston-The Woodlands-Sugar Land, TX	Far West Houston	1
Houston-The Woodlands-Sugar Land, TX	Friendswood/Pearland	1
Houston-The Woodlands-Sugar Land, TX	Galleria/Uptown	1
Houston-The Woodlands-Sugar Land, TX	Greater Heights/Washington Avenue	1
Houston-The Woodlands-Sugar Land, TX	Greenway/Upper Kirby	1
Houston-The Woodlands-Sugar Land, TX	Katy	1
Houston-The Woodlands-Sugar Land, TX	Memorial	1
Houston-The Woodlands-Sugar Land, TX	Sugar Land/Stafford	1
Houston-The Woodlands-Sugar Land, TX	The Woodlands	1
Houston-The Woodlands-Sugar Land, TX	West University/Medical Center/Third Ward	1
Jacksonville, FL	Baymeadows	1
Jacksonville, FL	Upper Southside	1
Kansas City, MO-KS	Lee's Summit/Blue Springs/Raytown	1
Las Vegas-Henderson-Paradise, NV	Henderson	1
Las Vegas-Henderson-Paradise, NV	Northwest Las Vegas	1
Las Vegas-Henderson-Paradise, NV	Summerlin/The Lakes	1
Memphis, TN-MS-AR	Cordova/Bartlett	1
Memphis, TN-MS-AR	Germantown/Collierville	1
Mobile/Daphne, AL	North Mobile	1
Nashville-Davidson--Murfreeseboro--Franklin, TN	Central Nashville	1
Nashville-Davidson--Murfreeseboro--Franklin, TN	South Nashville	1
Nashville-Davidson--Murfreeseboro--Franklin, TN	West Nashville	1
Orlando-Kissimmee-Sanford, FL	Casselberry/Winter Springs/Oviedo	1
Orlando-Kissimmee-Sanford, FL	Central Orlando	1
Orlando-Kissimmee-Sanford, FL	East Orange County	1
Orlando-Kissimmee-Sanford, FL	East Orlando	1
Orlando-Kissimmee-Sanford, FL	Sanford/Lake Mary	1
Orlando-Kissimmee-Sanford, FL	South Orange County	1

Area	Submarket	No. of Bedrooms
Orlando-Kissimmee-Sanford, FL	Southwest Orlando	1
Orlando-Kissimmee-Sanford, FL	Winter Park/Maitland	1
Phoenix-Mesa-Scottsdale, AZ	Chandler	1
Phoenix-Mesa-Scottsdale, AZ	Deer Valley	1
Phoenix-Mesa-Scottsdale, AZ	North Glendale	1
Phoenix-Mesa-Scottsdale, AZ	South Phoenix	1
Portland-Vancouver-Hillsboro, OR-WA	Aloha/West Beaverton	1
Portland-Vancouver-Hillsboro, OR-WA	Central Portland	1
Raleigh/Durham, NC	Central Raleigh	1
Raleigh/Durham, NC	Chapel Hill/Carrboro	1
Raleigh/Durham, NC	Far North Raleigh	1
Raleigh/Durham, NC	Near North Raleigh	1
Raleigh/Durham, NC	North Cary/Morrisville	1
Raleigh/Durham, NC	Northeast Raleigh	1
Raleigh/Durham, NC	Northwest Durham/Downtown	1
Raleigh/Durham, NC	Northwest Raleigh	1
Raleigh/Durham, NC	South Cary/Apex	1
Raleigh/Durham, NC	Southwest Durham	1
Reno, NV	South Reno	1
Richmond, VA	Northwest Richmond	1
Richmond, VA	Tuckahoe/Westhampton	1
Riverside-San Bernardino-Ontario, CA	Rancho Cucamonga/Upland	1
Riverside-San Bernardino-Ontario, CA	Temecula/Murrieta	1
Salt Lake City/Ogden/Clearfield, UT	Southwest Salt Lake City	1
San Antonio-New Braunfels, TX	Far North Central San Antonio	1
San Antonio-New Braunfels, TX	Far Northwest San Antonio	1
San Antonio-New Braunfels, TX	North Central San Antonio	1
San Antonio-New Braunfels, TX	Northwest San Antonio	1
San Diego-Carlsbad, CA	Northeast San Diego	1
Seattle-Bellevue-Everett, WA	Redmond	1
Tampa-St. Petersburg-Clearwater, FL	Carrollwood/Citrus Park	1
Tampa-St. Petersburg-Clearwater, FL	Central Tampa	1
Tampa-St. Petersburg-Clearwater, FL	Town and Country/Westchase	1

Area	Submarket	No. of Bedrooms
Tucson, AZ	Casas Adobes/Oro Valley	1
Tucson, AZ	Catalina Foothills	1
Washington-Arlington-Alexandria, DC-VA-MD-WV	Germantown	1
Washington-Arlington-Alexandria, DC-VA-MD-WV	Loudoun County	1
Washington-Arlington-Alexandria, DC-VA-MD-WV	Navy Yard/Capitol South	1
Washington-Arlington-Alexandria, DC-VA-MD-WV	Reston/Herndon	1
Washington-Arlington-Alexandria, DC-VA-MD-WV	West Alexandria	1
Washington-Arlington-Alexandria, DC-VA-MD-WV	West Fairfax County	1
Anaheim-Santa Ana-Irvine, CA	South Orange County	2
Atlanta-Sandy Springs-Roswell, GA	Alpharetta/Cumming	2
Atlanta-Sandy Springs-Roswell, GA	Briarcliff	2
Atlanta-Sandy Springs-Roswell, GA	Buckhead	2
Atlanta-Sandy Springs-Roswell, GA	Chamblee/Brookhaven	2
Atlanta-Sandy Springs-Roswell, GA	Duluth	2
Atlanta-Sandy Springs-Roswell, GA	Dunwoody	2
Atlanta-Sandy Springs-Roswell, GA	Kennesaw/Acworth	2
Atlanta-Sandy Springs-Roswell, GA	Midtown Atlanta	2
Atlanta-Sandy Springs-Roswell, GA	Norcross	2
Atlanta-Sandy Springs-Roswell, GA	Northeast Cobb/Woodstock	2
Atlanta-Sandy Springs-Roswell, GA	Roswell	2
Atlanta-Sandy Springs-Roswell, GA	Sandy Springs	2
Atlanta-Sandy Springs-Roswell, GA	Smyrna	2
Atlanta-Sandy Springs-Roswell, GA	Southeast Gwinnett County	2
Atlanta-Sandy Springs-Roswell, GA	Southeast Marietta	2
Atlanta-Sandy Springs-Roswell, GA	Southwest Atlanta	2
Atlanta-Sandy Springs-Roswell, GA	Vinings	2
Austin-Round Rock, TX	Arboretum	2
Austin-Round Rock, TX	Cedar Park	2
Austin-Round Rock, TX	Far South Austin	2
Austin-Round Rock, TX	Far West Austin	2

Area	Submarket	No. of Bedrooms
Austin-Round Rock, TX	Near North Austin	2
Austin-Round Rock, TX	Northwest Austin	2
Austin-Round Rock, TX	Pflugerville/Wells Branch	2
Austin-Round Rock, TX	South Austin	2
Austin-Round Rock, TX	Southwest Austin	2
Baltimore-Columbia-Towson, MD	Columbia/North Laurel	2
Birmingham-Hoover, AL	Southeast Birmingham	2
Charleston-North Charleston, SC	Downtown/Mount Pleasant/Islands	2
Charleston-North Charleston, SC	West Ashley	2
Charlotte-Concord-Gastonia, NC-SC	Ballantyne	2
Charlotte-Concord-Gastonia, NC-SC	Huntersville/Cornelius	2
Charlotte-Concord-Gastonia, NC-SC	Myers Park	2
Charlotte-Concord-Gastonia, NC-SC	South Charlotte	2
Charlotte-Concord-Gastonia, NC-SC	UNC Charlotte	2
Charlotte-Concord-Gastonia, NC-SC	Uptown/South End	2
Colorado Springs, CO	North Colorado Springs	2
Columbus, OH	Gahanna/Northeast Columbus	2
Dallas-Plano-Irving, TX	Addison/Bent Tree	2
Dallas-Plano-Irving, TX	Allen/McKinney	2
Dallas-Plano-Irving, TX	Carrollton/Farmers Branch	2
Dallas-Plano-Irving, TX	East Dallas	2
Dallas-Plano-Irving, TX	Frisco	2
Dallas-Plano-Irving, TX	Grand Prairie	2
Dallas-Plano-Irving, TX	Intown Dallas	2
Dallas-Plano-Irving, TX	Las Colinas/Coppell	2
Dallas-Plano-Irving, TX	North Irving	2
Dallas-Plano-Irving, TX	Oak Lawn/Park Cities	2
Dallas-Plano-Irving, TX	Richardson	2
Dallas-Plano-Irving, TX	Rockwall/Rowlett/Wylie	2
Dallas-Plano-Irving, TX	The Colony/Far North Carrollton	2
Dallas-Plano-Irving, TX	West Plano	2
Denver-Aurora-Lakewood, CO	Broomfield	2
Denver-Aurora-Lakewood, CO	Highlands Ranch	2
Denver-Aurora-Lakewood, CO	Littleton	2
Denver-Aurora-Lakewood, CO	North Aurora	2



Area	Submarket	No. of Bedrooms
Denver-Aurora-Lakewood, CO	Southeast Aurora/East Arapahoe County	2
Denver-Aurora-Lakewood, CO	Tech Center	2
Denver-Aurora-Lakewood, CO	Westminster	2
Fort Lauderdale-Pompano Beach-Deerfield Beach, FL	Plantation/Davie/Weston	2
Fort Worth-Arlington, TX	Grapevine/Southlake	2
Fort Worth-Arlington, TX	Northeast Fort Worth/North Richland Hills	2
Hartford-West Hartford-East Hartford, CT	Southeast Hartford/Middlesex County	2
Houston-The Woodlands-Sugar Land, TX	Bear Creek	2
Houston-The Woodlands-Sugar Land, TX	Downtown/Montrose/River Oaks	2
Houston-The Woodlands-Sugar Land, TX	Far West Houston	2
Houston-The Woodlands-Sugar Land, TX	Friendswood/Pearland	2
Houston-The Woodlands-Sugar Land, TX	Galleria/Uptown	2
Houston-The Woodlands-Sugar Land, TX	Greater Heights/Washington Avenue	2
Houston-The Woodlands-Sugar Land, TX	Greenway/Upper Kirby	2
Houston-The Woodlands-Sugar Land, TX	Memorial	2
Houston-The Woodlands-Sugar Land, TX	Sugar Land/Stafford	2
Houston-The Woodlands-Sugar Land, TX	The Woodlands	2
Houston-The Woodlands-Sugar Land, TX	West University/Medical Center/Third Ward	2
Jacksonville, FL	Baymeadows	2
Jacksonville, FL	Upper Southside	2
Kansas City, MO-KS	Lee's Summit/Blue Springs/Raytown	2
Lansing-East Lansing, MI	East Lansing	2
Las Vegas-Henderson-Paradise, NV	Henderson	2
Las Vegas-Henderson-Paradise, NV	Northwest Las Vegas	2
Las Vegas-Henderson-Paradise, NV	Summerlin/The Lakes	2
Memphis, TN-MS-AR	Cordova/Bartlett	2
Memphis, TN-MS-AR	Germantown/Collierville	2
Mobile/Daphne, AL	North Mobile	2

Area	Submarket	No. of Bedrooms
Nashville-Davidson--Murfreeseboro--Franklin, TN	Central Nashville	2
Nashville-Davidson--Murfreeseboro--Franklin, TN	South Nashville	2
Orlando-Kissimmee-Sanford, FL	Casselberry/Winter Springs/Oviedo	2
Orlando-Kissimmee-Sanford, FL	Central Orlando	2
Orlando-Kissimmee-Sanford, FL	East Orange County	2
Orlando-Kissimmee-Sanford, FL	East Orlando	2
Orlando-Kissimmee-Sanford, FL	Sanford/Lake Mary	2
Orlando-Kissimmee-Sanford, FL	South Orange County	2
Orlando-Kissimmee-Sanford, FL	Southwest Orlando	2
Orlando-Kissimmee-Sanford, FL	Winter Park/Maitland	2
Phoenix-Mesa-Scottsdale, AZ	Chandler	2
Phoenix-Mesa-Scottsdale, AZ	Deer Valley	2
Phoenix-Mesa-Scottsdale, AZ	North Glendale	2
Phoenix-Mesa-Scottsdale, AZ	South Phoenix	2
Portland-Vancouver-Hillsboro, OR-WA	Aloha/West Beaverton	2
Portland-Vancouver-Hillsboro, OR-WA	Central Portland	2
Raleigh/Durham, NC	Central Raleigh	2
Raleigh/Durham, NC	Chapel Hill/Carrboro	2
Raleigh/Durham, NC	Far North Raleigh	2
Raleigh/Durham, NC	Near North Raleigh	2
Raleigh/Durham, NC	North Cary/Morrisville	2
Raleigh/Durham, NC	Northeast Raleigh	2
Raleigh/Durham, NC	Northwest Raleigh	2
Raleigh/Durham, NC	South Cary/Apex	2
Raleigh/Durham, NC	Southwest Durham	2
Reno, NV	South Reno	2
Richmond, VA	Northwest Richmond	2
Richmond, VA	Tuckahoe/Westhampton	2
Riverside-San Bernardino-Ontario, CA	Rancho Cucamonga/Upland	2
Riverside-San Bernardino-Ontario, CA	Temecula/Murrieta	2
Salt Lake City/Ogden/Clearfield, UT	Southwest Salt Lake City	2
San Antonio-New Braunfels, TX	Far North Central San Antonio	2

Area	Submarket	No. of Bedrooms
San Antonio-New Braunfels, TX	Far Northwest San Antonio	2
San Antonio-New Braunfels, TX	North Central San Antonio	2
San Antonio-New Braunfels, TX	Northwest San Antonio	2
San Diego-Carlsbad, CA	Northeast San Diego	2
Seattle-Bellevue-Everett, WA	Renton	2
Tampa-St. Petersburg-Clearwater, FL	Carrollwood/Citrus Park	2
Tampa-St. Petersburg-Clearwater, FL	Central Tampa	2
Tampa-St. Petersburg-Clearwater, FL	Town and Country/Westchase	2
Tucson, AZ	Casas Adobes/Oro Valley	2
Tucson, AZ	Catalina Foothills	2
Washington-Arlington-Alexandria, DC-VA-MD-WV	Germantown	2
Washington-Arlington-Alexandria, DC-VA-MD-WV	Loudoun County	2
Washington-Arlington-Alexandria, DC-VA-MD-WV	Navy Yard/Capitol South	2
Washington-Arlington-Alexandria, DC-VA-MD-WV	Reston/Herndon	2
Washington-Arlington-Alexandria, DC-VA-MD-WV	West Alexandria	2
Washington-Arlington-Alexandria, DC-VA-MD-WV	West Fairfax County	2