

# A NEW CULPRIT IN THE HOUSING CRISIS: RENT-SETTING SOFTWARE ALGORITHMS

MARCH 2024



## Overview

The purpose of this memo is to alert state and local leaders to the problem of algorithmic price fixing in rental housing markets – responsible for driving up rents – and to offer solutions to combat it.

Across the country, landlords are turning to a new tool to raise rents and further exacerbate the housing crisis: **software algorithms**. Third party service providers like **RealPage** offer recommendations to landlords that promise to boost their profits while driving up housing costs. These recommendations are based on sensitive, proprietary data or publicly-available data sets regarding local housing markets. In some metro areas, the use of rent-fixing software algorithms has played a **significant role in double-digit rent increases**.<sup>1</sup>

The danger of algorithmic rent-setting is exacerbated by a trend toward **consolidation in local housing markets**, as more units wind up in the hands of large, institutional landlords and rental property managers.<sup>2</sup> But software algorithms can facilitate rent increases even in less concentrated housing markets. Pending lawsuits allege that landlord trade associations have facilitated the use of software algorithms among small- and mid-sized owners of rental properties.

RealPage's clients allegedly comprise about 90 percent of the U.S. market for investment-grade multifamily rental housing units, restricting housing opportunities and limiting renter mobility.<sup>3</sup> While landlords profit from increased pricing efficiency, renters pay the costs of anticompetitive rent-setting. At a real estate conference in Nashville, when asked about whether RealPage's software had any effect on 14.5 percent rent increases in some markets, RealPage VP Andrew Bowen responded, "I think it's driving it, quite honestly."<sup>4</sup> Conservative estimates of RealPage

<sup>1</sup> Heather Vogell, "[Rent Going Up? One Company's Algorithm Could Be Why.](#)", October 2022

<sup>2</sup> In 2019, 1 in 6 apartments in the US were controlled by the nation's 50 largest property managers; The share of units managed by this top-50 group has increased every year for the past fourteen years. National Multifamily Housing Council, "[2023 NMHC 50 Analysis: Managers](#)", April 2023

<sup>3</sup> First Amended Consol. Class Action Complaint, Dkt. No. 314, at 85, *In re: RealPage, Inc., Rental Software Antitrust Litigation*, Case No. 3:23-md-03071, (M.D. Tenn. 2023)

<sup>4</sup> Vogell, "[Rent Going Up?](#)", 2022

usage in Phoenix, AZ, and Tucson, AZ, showed overcharges of 12% and 13%, respectively, across tens of thousands of units.<sup>5</sup>

Rent-setting algorithms also lead to **higher rates of eviction**. According to one landlord client of RealPage, adopting RealPage’s rent recommendations increased “turnover rates” by 15 percentage points, meaning tenants had to find new apartments because of the untenable rent increases.<sup>6</sup>

 **Here’s how it works:** Landlords across local markets share private data regarding their rental properties with RealPage, including current rents, available square footage, and vacancy levels. RealPage uses that data and publicly-available data sets to estimate supply and demand for rental housing specific to particular geographic areas and unit types.<sup>7</sup> RealPage then recommends rent and occupancy levels that maximize not just the landlord’s revenue, but revenue across all of RealPage’s clients in the market.<sup>8</sup>

This system allows landlords to conspire to limit supply and drive up rents without explicitly sharing data with each other, exploiting a loophole in laws that prohibit price-fixing. In effect, they create a cartel to keep rent prices high. Landlords who contract with RealPage follow its recommendations almost 90 percent of the time.<sup>9</sup> RealPage enforces behavior across the cartel by imposing consequences for rejecting its recommendations, including by kicking out landlords that deviate too often.<sup>10</sup>

**The result:** Inflated rents, artificially constrained housing supply, and higher profits for corporate landlords and RealPage alike.

## Rent-Fixing Software Algorithms Attract Heightened Public and Private Scrutiny

In November 2023, the District of Columbia Attorney General **filed suit** in the District of Columbia Superior Court against RealPage and 14 of the largest landlords in Washington, D.C.<sup>11</sup> In February 2024, the Arizona Attorney General filed suit in state court against RealPage and nine major

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<sup>5</sup> Complaint, Dkt. No. 1, *State of Arizona v. RealPage, Inc., et al*, Case No. forthcoming (filed Feb. 28, 2024, Ariz. Sup. Ct., Maricopa County)

<sup>6</sup> *Id.*, at 2

<sup>7</sup> District of Columbia v. RealPage, Inc. [DC attorney general RealPage complaint](#)

<sup>8</sup> Vogell, “[Rent Going Up?](#)”, 2022

<sup>9</sup> *Supra*, RealPageMDL, at 5

<sup>10</sup> Complaint, at 22, *District of Columbia v. RealPage, Inc. et al.*, Case No. 2023-CAB-006762 (D.C. Sup. Ct. 2023) (“...[RealPage] understood the importance of universal adherence and was willing to expel an occasional cartel member to demonstrate its commitment to enforcement of the agreed-upon pricing scheme”)

<sup>11</sup> District of Columbia v. RealPage, Inc. [DC attorney general RealPage complaint](#)

residential apartment landlords.<sup>12</sup> More than 20 federal private class action lawsuits against RealPage and the landlords with whom it contracts have been consolidated in the Middle District of Tennessee.<sup>13</sup> The Justice Department recently filed a Statement of Interest in support of those private plaintiffs.<sup>14</sup> At the close of 2023, the multi-district litigation in Tennessee cleared a major hurdle allowing the case to proceed, finding that RealPage contained a “melting pot of confidential competitor information.”<sup>15</sup>

RealPage has also attracted **scrutiny from numerous Senators and Congressmembers**. In November 2022, shortly after the ProPublica report, Sens. Amy Klobuchar (D-MN), Dick Durbin (D-IL) and Cory Booker (D-NJ) wrote to the Justice Department with concerns that RealPage enables “a cartel to artificially inflate rental rates in multifamily residential buildings.”<sup>16</sup> Sen. Sherrod Brown (D-OH) called on the Federal Trade Commission to review whether RealPage and rental pricing algorithms violate the law.<sup>17</sup> In November 2023, Rep. Daniel Goldman (D-NY) urged New York Attorney General Letitia James to investigate the company.<sup>18</sup>

In February, Senator Ron Wyden (D-OR) introduced a bill, *Preventing the Algorithmic Facilitation of Rental Housing Cartels Act*, which would outlaw the use of algorithmic price-setting software in the rental housing market.

## Other Industries Reveal the Widespread Harm of Price-Fixing Software Algorithms

While RealPage has attracted public scrutiny for its role in driving up rents amid a nationwide housing crisis, similar tools are being used to **increase prices and drive down wages in other industries, as well**.

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<sup>12</sup> Press Release, “Attorney General Mayes Sues RealPage and Residential Landlords for Illegal Price-Fixing Conspiracy,” Office of the Arizona Attorney General, Feb. 28, 2024, accessible online:

<https://www.azag.gov/press-release/attorney-general-mayes-sues-realpage-and-residential-landlords-illegal-price-fixing>

<sup>13</sup> *Supra*, RealPage MDL

<sup>14</sup> Statement of Interest of the United States, Dkt. No. 628, RealPage MDL, *supra*, accessible online:

<https://www.justice.gov/atr/case-document/statement-interest-united-states-0>

<sup>15</sup> Memorandum Opinion, Dkt. No. 687, at 6, RealPage MDL, *supra*

<sup>16</sup> Senators Klobuchar, Durbin, and Booker to Assistant Attorney General Kanter, U.S. Justice Department, Nov. 4, 2022; accessible online:

[https://www.klobuchar.senate.gov/public/\\_cache/files/1/9/19782dfa-3f92-47d4-b228-2c3737255600/08C76DEA4BC4F963258BC401335E6569.letter-to-aag-kanter-re-realpage-11.4.22-.pdf](https://www.klobuchar.senate.gov/public/_cache/files/1/9/19782dfa-3f92-47d4-b228-2c3737255600/08C76DEA4BC4F963258BC401335E6569.letter-to-aag-kanter-re-realpage-11.4.22-.pdf)

<sup>17</sup> Senator Brown to Federal Trade Commission, November 1, 2022, accessible online:

<https://www.brown.senate.gov/newsroom/press/release/sherrod-brown-calls-on-ftc-to-review-whether-rental-pricing-algorithms-violate-the-law>

<sup>18</sup> Representative Goldman to Hon. Letitia James, NY Attorney General, Nov. 28, 2023, accessible online:

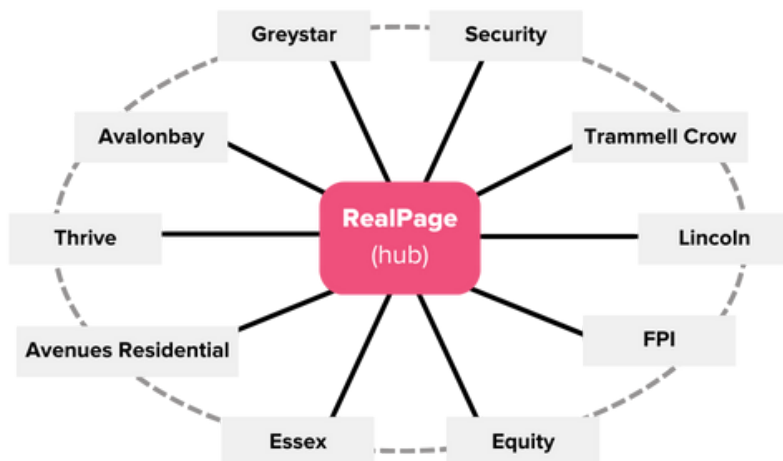
<https://goldman.house.gov/sites/evo-subsites/goldman.house.gov/files/evo-media-document/letter-to-ag-james-re-realpage.pdf>

In January 2023, tourists filed a complaint against prominent hotels on the Las Vegas strip alleging they used a price fixing algorithm called Rainmaker to artificially inflate hotel prices.<sup>19</sup> According to a lawsuit filed by the Federal Trade Commission in September 2023, Amazon used a pricing algorithm, code-named "Project Nessie," to increase prices while predicting that competitors would follow suit.<sup>20</sup> Also in September 2023, the U.S. Department of Justice and several states filed a lawsuit against Agri Stats for collecting data from chicken, pork and turkey processors that it used to recommend prices and production strategies to competitors.<sup>21</sup> Algorithms also are being used to set wages for workers, especially in the so-called "gig economy," lowering pay and eroding pay transparency.<sup>22</sup> Yet another lawsuit alleges that every major hotel chain in the country uses the same "information exchange" to unlawfully hike daily hotel rates.<sup>23</sup>

## Shortcomings of Existing Laws Against Price-Fixing

Despite the prevalence of software price fixing and the clear harms that flow from it, **existing laws against price fixing are hard to enforce**. Central to any claim alleging illegal price fixing among competing firms is the existence of an agreement between those firms to fix prices. But when that agreement is facilitated and enforced by a third party – such as RealPage, Rainmaker, or Agri Stats – an agreement among competitors can be challenging to prove, even though the harm is the same.

These types of price fixing schemes, where a centralized company (such as a data broker, trade association, information exchange, or software algorithm) facilitates illegal agreements among competitors, are often referred to as **"hub and spoke" conspiracies**.



In the RealPage example, RealPage is the "hub" and landlords who depend on it

<sup>19</sup> Mike Scarcella, "Caesars, MGM and other Las Vegas hotels deny room-rate price-fixing conspiracy," Reuters, March 28, 2023

<sup>20</sup> Makenna Kelly, "Amazon's secret pricing scheme made it an extra \$1 billion, FTC says," The Verge, Nov. 2, 2023

<sup>21</sup> Press Release, "Justice Department Sues Agri Stats for Operating Extensive Information Exchanges Among Meat Processors," U.S. Dept. of Justice, Sept. 28, 2023

<sup>22</sup> Veena Dubal, "On Algorithmic Wage Discrimination," Washington Center for Equitable Growth, July 2023

<sup>23</sup> *Portillo et al. v. CoStar Group, Inc. et al.*, Case No. 2:24-cv-00229 (W.D. Wash. 2024)

are the spokes. By agreeing to follow RealPage’s recommendations, which are generated using competitively-sensitive data from each of the landlords, the landlords have tacitly agreed to fix rents without the need to directly communicate with each other.

To see if RealPage is operating in your community, you can use RealPage’s own “explore” feature, here: <https://www.realpage.com/explore/main>

## Steps You Can Take:

**Lawmakers have no reason to wait.** The multi-district litigation in Tennessee and the District of Columbia AG’s lawsuit may take years to resolve – and it’s not clear whether plaintiffs will succeed given existing challenges with enforcing antitrust laws. Policymakers can move swiftly by introducing legislation that prohibits the use of third party software algorithms and, in doing so, send a message to the industry that using software to exacerbate the harms of an existing housing crisis is off limits.



In addition to introducing legislation to ban the use of third party software algorithms at the municipal level, for which we provide a model, below, **municipal lawmakers can take the following steps:**

1. Introduce a local ordinance or state-level legislation restricting or prohibiting the use of algorithmic price fixing software in rental markets. We provide model legislation below.
2. Encourage state attorneys general or local investigatory authorities to report on the use of algorithmic price fixing software in your state or locality, as a precursor to litigation in your jurisdiction. We provide a model resolution below.
3. Encourage constituents to support Sen. Ron Wyden’s *Preventing the Algorithmic Facilitation of Rental Housing Cartels Act*, introduced in Feb. 2024, which would outlaw the use of algorithmic price-setting software in the rental housing market, or pass a municipal resolution supporting the bill.

## Model State and Municipal Legislation

In this section, we provide **sample model legislation** that can provide core elements of an effective law to prohibit unfair coordination of rents in your state or municipal jurisdiction. Because each jurisdiction will have its own drafting conventions, the model legislation here is

designed to be useful as a guide for accurate definitions, description of activity being prohibited, and to ensure the law is enforceable.

### *SEC. 1. SHORT TITLE.*

*This act may be cited as the “Preventing Algorithmic Rent Fixing in the Rental Housing Market Act.”*

### *SEC. 2. UNLAWFUL CONDUCT.*

#### *(a) In General.—*

*(1) CONSPIRACY IN RESTRAINT OF TRADE.—It is unlawful for any real estate lessor, in or affecting commerce, or any agent or subcontractor thereof, to subscribe to, contract with, or otherwise exchange anything of value in return for the services of a service provider.*

*(2) FACILITATION OF CONSPIRACY IN RESTRAINT OF TRADE.—It is unlawful for any service provider, in or affecting commerce, to facilitate an agreement to not compete among real estate lessors with respect to residential dwelling units.*

### *SEC. 3. DEFINITIONS.*

#### *(a) In general—*

*In this Act:*

*(1) COORDINATING.—The terms “coordinate” or “coordinating” mean, with respect to a service provider—*

*(A) collecting of historical or contemporaneous prices, price changes, supply levels, occupancy rates, or lease or rental contract termination and renewal dates of residential dwelling units from two or more real estate lessors or from public databases;*

*(B) analyzing or processing of the information described in subparagraph (A) using a system, software, or process that uses computation; and*

*(C) recommending rental prices, lease terms, or occupancy levels to a real estate lessor.*

*(3) PERSON.—The term “person” means any natural person, corporation, partnership, limited liability company, firm, or association.’*

*(4) the term ‘predispute arbitration agreement’ means an agreement to arbitrate a dispute that has not yet arisen at the time of the making of the agreement; and*

*(5) the term ‘predispute joint-action waiver’ means an agreement, whether or not part of a predispute arbitration agreement, that would prohibit, or waive the right of, one of the parties to the agreement to participate in a joint, class, or collective action in a judicial,*

arbitral, administrative, or other forum, concerning a dispute that has not yet arisen at the time of the making of the agreement

(6) *SERVICE PROVIDER*.—The term “service provider” means any person that performs a coordination function, as defined in Section 3(a)(1) of this Act, for any real estate lessor or rentor.

(7) *RESIDENTIAL DWELLING UNIT*.—The term “residential dwelling unit”—

(A) means any house, apartment, accessory unit, or other unit intended to be used as a person’s primary residence; and

(B) does not include inpatient medical care, licensed long-term care, and detention or correctional facilities.

(8) *REAL ESTATE LESSOR*.—The term “real estate lessor” means any individual, corporation, partnership, association, joint-stock company, trust, or unincorporated organization that owns real property and leases such property or any portion thereof in the form of a residential dwelling unit.

#### SEC. 4. ENFORCEMENT.

(a) *Enforcement*.—

(1) *IN GENERAL*.—

(A) *PUBLIC ENFORCEMENT*.—The Attorney General or any city, county, or district attorney may bring a civil action, as *parens patriae* on behalf of natural persons residing in the state, in the superior court of any county which has jurisdiction of a defendant, to secure monetary relief as provided in this section for injury sustained by those natural persons to their property by reason of any violation of this chapter.

(B) *PRIVATE RIGHT OF ACTION*. Any person who is injured by reason of anything forbidden or declared unlawful by this chapter, may sue therefor in any court having jurisdiction in the county where the defendant resides or is found, or any agent resides or is found, or where service may be obtained, without respect to the amount in controversy.

(2) *UNFAIR METHODS OF COMPETITION*.—A violation of this Act shall also constitute an unfair method of competition.

(3) *AWARD AMOUNT*.—

(A) *TREBLE DAMAGES*.—The court shall award to the plaintiff threefold the damages sustained by the plaintiff.

(B) *INTEREST ON DAMAGES*.—Pursuant to a motion by the plaintiff promptly made, the court may award simple interest on actual damages sustained by the plaintiff for the period beginning on the date of service of the pleading of the plaintiff setting forth a

*claim under this Act and ending on the date of judgment, or for any shorter period therein.*

*(4) INVALIDITY OF PRE-DISPUTE ARBITRATION AGREEMENTS AND JOINT-ACTION WAIVERS.— At the election of the person alleging conduct constituting a violation of this section, or the named representative of a class or in a collective action alleging such conduct, no pre-dispute arbitration agreement or pre-dispute joint-action waiver shall be valid or enforceable with respect to a case which is filed under Federal, Tribal, or State or Local law and relates to a violation of this section.*

*(5) ATTORNEYS FEES AND COSTS.—In the case of any successful action to enforce liability pursuant to this Act, the costs of the action together with reasonable attorney fees as determined by the court shall be awarded to plaintiffs. Costs and attorney fees shall be awarded to the attorney general or a city, county, or district attorney in all actions where the attorney general or the city, county, or district attorney successfully enforces this article.*

#### **SEC. 5. SEVERABILITY.**

*If any provision of this Act, or the application of such a provision to any person or circumstance, is held to be unconstitutional, the remaining provisions of this Act, and the application of such provisions to any person or circumstance shall not be affected thereby.*

## **Model Municipal Investigation Resolution**

In this section, we provide a **sample city council resolution** that can provide core elements of a call for state or city enforcement action. Because each jurisdiction will have its own drafting conventions, the model is designed to provide an accurate description of the activity to be investigated.

### ***Resolution of the City Council Urging Investigation of Price Fixing in Rental Housing Markets***

*WHEREAS, Across the country landlords are using software algorithms and other information exchanges between competitors to raise rents, artificially constrain supply, and further exacerbate the housing crisis;*

*WHEREAS, Corporations sell software or access to information exchanges that promises to boost landlord profits by 1) collecting sensitive data from landlords across regional housing markets and 2) processing sensitive data and public data to recommend rent increases and create artificial scarcity by leaving a certain percentage of housing units vacant;*



*WHEREAS, The problem is exacerbated by a trend toward consolidation primarily in local rental housing markets, as more units wind up in the hands of large, institutional landlords and rental property managers;*

*WHEREAS, Access to affordable housing and fair and transparent rental housing prices is a critical issue for the residents of [City];*

*NOW, THEREFORE BE IT RESOLVED That the City [or County] Council of the City [or County] of [City of County] hereby calls on the Attorney General of the State of [State]/City Attorney to investigate whether landlords are colluding to fix prices via software or information exchange operated by any other coordinating entity, and if so, take all appropriate enforcement actions. Furthermore, the City Council does hereby call on the state legislature and Governor to take all appropriate steps to protect renters from the further spread and abuse of these tools.*

*BE IT FURTHER RESOLVED, That, upon passage, copies of this resolution be sent to the Attorney General/City Attorney and the elected State House and State Senate representatives of [City/County/State].*