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INTRODUCTION

Yu Xiao and Maria Watson encouraged planning scholars to use methods for literature reviews that are valid, reliable, and repeatable (2019). When I was planning the literature search for our article "Providing Rental Housing," I took this call to heart and developed and executed a rigorous, and at times novel, method for identifying a breadth of interdisciplinary research about residential real estate property owner (RRPOs) and the decisions they make related to their businesses. The article is intended to be a foundational publication for the research that this team is pursuing to uncover patterns of behavior that non-institutional RRPOs use in their business and tenant decisions in disaster-prone cities. The review will help us frame our qualitative research and quantitative analysis. Additionally, we would like the piece to serve planners and planning scholars who also want to know what trends and gaps exist in and outside of planning regarding RRPO decision making. Lastly, we needed to move as quickly as possible so that the review can serve the team and other planners and scholars working in this quickly growing area of research.

It was an ambitious set of requirements for one literature review: be broad and thorough, serve a specific research project and generalists, and work collaboratively, transparently, adaptively, and methodically as quickly as possible. Here is how we did it and what we learned about the process.

STEP ONE: Cast a Wide Net

We suspected that some of the most interesting insights on RRPO behavior have been published outside of the planning discipline. Urban sociologists and geographers have long been contributing to this field, but we anticipated that scholars in other fields have insights on RRPOs that may be valuable to planners as well.

To prepare for the searches, we brainstormed a list of keywords related to our research questions and conducted a round of test searches using Google Scholar to identify additional related terms. This process resulted in a list of 40 unique keywords which we combined with four commonly used synonyms for RRPO: "property manager," "rental property owner," "landlord," and "rental property investor" (see Table 1).

TABLE 1. Phase 1 Keywords

Decision Type	Brainstormed Keywords	Keywords Added after Google Scholar Search
Career	"passive income"	"Entrepreneur"
	"retire"	"inherit"
	"small business"	"vacation home"
		"social reproduction"
Portfolio	"invest"	"finance"
	"purchase"	"tax"
	"buy"	"diversify"
	"appreciation"	"foreclosure"
	"speculation"	"rental markets"
		"risk management"
Operations	"forgive"	"housing instability"
	"flexible"	"housing insecurity"
	"payment plan"	"below market rent"
	"cash for keys"	"low income housing"
	"eviction"	"disinvestment"
	"eviction" and "discrimination"	"discrimination" and "maintenance"
	"non-renewal"	"gentrification" and "maintenance"
	"Termination of Occupancy"	"renoviction" or "demoviction"
	"notice to vacate"	
	"repairs"	
	"maintenance"	
	"code violations"	
	"distressed property"	
	"condemned"	
Totals	**22**	**18**

The initial search had two stages and was designed to search as broadly as possible across all types of journals and gray literature. First, we completed searches in two databases, Google Scholar and JSTOR, using the list of keywords with each RRPO synonym. These 320 unique searches[1] brought up thousands of articles that were filtered for additional inclusion

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[1] Key Words (40) x Synonyms for RRPO (4) x Databases (2) = 320

criteria. We focused on publications in 2008 or later, believing that the years since the financial crisis represent a distinct era in housing trends and has been a long enough period to present a range of market cycles and behaviors. Our searches were also limited to articles written in English and that concentrate on the United States. We reviewed the abstracts for the filtered articles and selected for the initial list the ones with direct relevance to the research questions.

Second, we reviewed key words from some of the articles that had been identified already and then refined the searches refined to add another synonym for owner, "investor," and seven more keywords based on a review of the identified articles. We used a third database, EBSCOHost (all sources), and added the new search terms resulting in another 235 searches[2] (see Table 2).

TABLE 2. Phase 2 Keywords

Decision Type	Keywords added in Second Phase of Keyword Search
Portfolio	"flipping"
	"single-family rental"
	"housing"
	"rental housing"
	"housing prices"
	"residential property investors"
Operations	"regulation"
Total New Terms	7

The keyword search method is the most intensive and, relative to the second method we used, not the most productive. The 555 different searches yielded thousands of results, but ultimately only 138 of these articles met our inclusion criteria—that is one article for every four searches. In addition to the number of searches that were necessary, the iterative process of refining the keyword list added to the workload. However, it pays off to be reflective and meticulous. The search process demonstrated how sensitive databases are to exact words and phrases. Often, if a precise search term is not in the article title, listed as a keyword, or in the abstract (which are not required for most Law reviews), it will not surface in the search results. Despite the time, relatively low return rate, and admitted tedium, the keyword search method was necessary to achieve our interdisciplinary and inclusive objective, which I will discuss more in a moment.

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[2] Key Words (47) x Synonyms for RRPO (5) x Databases (1) = 235

STEP TWO: Build on What You Already Know

The easiest and most productive way to identify relevant articles is to look at the citations (backward) and citers (forward) of an applicable article that you already have. To take advantage of this method, I identified an article for each RRPO decision topic and meta-category based on the articles that had been identified through the keyword search and were by frequently cited authors. These articles were used for forward and backward searches to fill in the web of identified articles with relevant pieces that had been missed by keywords (see Table 3).

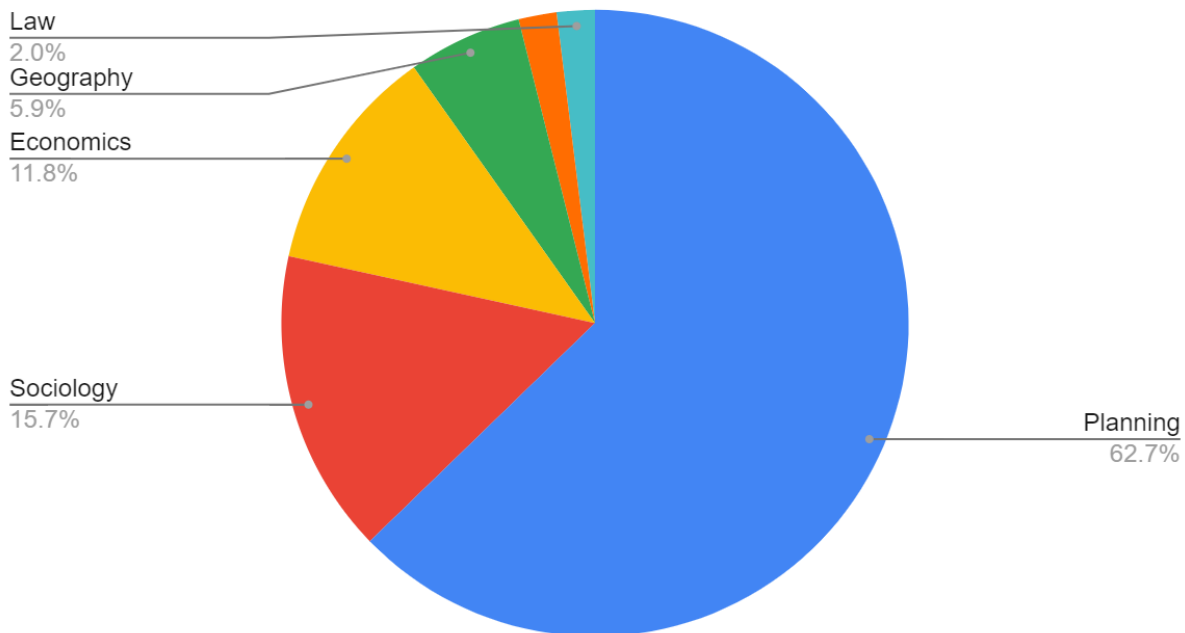**TABLE 3. Results from Backward and Forward Searches**

Decision Topic	Meta-Category	Article to search	New Articles IDed
Career	**Type**	P.M.E. Garboden (2021). Amateur real estate investing. *Journal of Urban Affairs*.	9
	Market	R. S. Molloy and R. Zarutskie. (2013). Business investor activity in the single-family-housing market. Board of Governors of the Federal Reserve System.	4
	Disasters	D. Immergluck and J. Law. (2014). Investing in Crisis: The Methods, Strategies, and Expectations of Investors in Single-Family Foreclosed Homes in Distressed Neighborhoods. *Housing Policy Debate*.	5
Portfolio	**Type**	S. Özogul and T. Tasan-Kok. (2020). One and the Same? A Systematic Literature Review of Residential Property Investor Types. *Journal of Planning Literature*.	4
	Market	N. Decker. (2020). Affordable Housing Without Public Subsidies: Rent-Setting Practices in Small Rental Properties. *Journal of the American Planning Association*.	4
	Disasters	D. Immergluck. (2010). Holding or folding? Foreclosed property durations and sales during the mortgage crisis. From *REO & Vacant Properties: Strategies for Neighborhood Stabilization,* Federal Reserve Banks of Boston and Cleveland and the Board of Governors.	4
Operations	**Type**	E. Rosen, P.M.E. Garboden, and J.E. Cossyleon. (2021). Racial Discrimination in Housing: How Landlords Use Algorithms and Home Visits to Screen Tenants. *American Sociological Review*.	7
	Market	M. J. Greif. (2018). Regulating Landlords: Unintended Consequences for Poor Tenants. *City and Community*.	4
	Disasters	N. Decker. (2021a). The Uneven Impact of the Pandemic on the Tenants and Owners of Small Rental Properties. Terner Center.	10
		Total	51

This method was indeed productive. A forward and backward search for each article meant it only took 24 unique searches to identify more than 50 new articles. That search to identification ratio is more than 8.5 times better than the keyword search method.
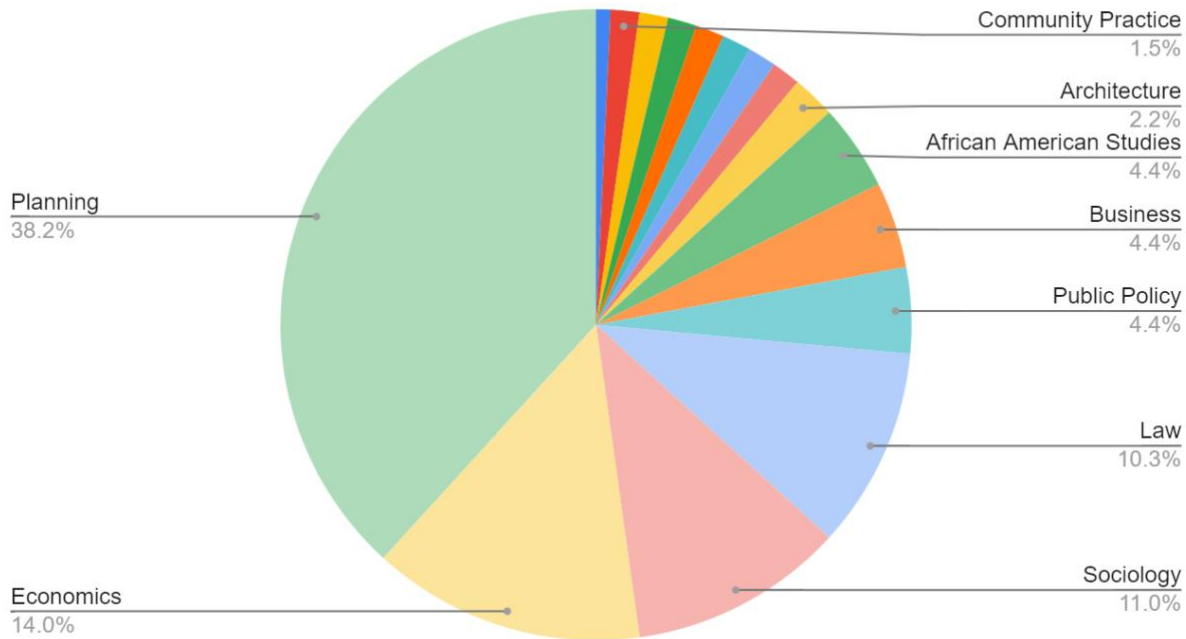
The risk of depending on this method alone was that we would not sufficiently exit the planning orbit. As planners, we have a predictable bias for the planning literature. If we only used this method and started with an article that we knew and perceived as relevant then it would just be a matter of luck if network exploration led us to wander outside the well-known planning or sociology cannon into more distant, but highly relevant, disciplines. And indeed, this is what a quick analysis of our search results shows. Using the forward and backward searching, resulted in almost 63% of the articles coming from planning publications, compared to just 38% of the articles coming from planning publications using the keyword search method. Not only was the keyword search less planning centric, our comparison shows that it was also significantly more interdisciplinary. Forward and backward searches only captured articles from publications in six disciplines while the keyword search turned up important results in 16 different fields of study.

"Forward and Backward Search" Disciplines

- Law 2.0%
- Geography 5.9%
- Economics 11.8%
- Sociology 15.7%
- Planning 62.7%

"Keyword Search" Disciplines

Discipline	Percentage
Community Practice	1.5%
Architecture	2.2%
African American Studies	4.4%
Business	4.4%
Public Policy	4.4%
Law	10.3%
Sociology	11.0%
Economics	14.0%
Planning	38.2%

STEP THREE: Check Your Work

Unfortunately, neither of these methods are capable of identifying every single article on this topic, so I devised a way to help assure us that our findings were "good enough." In the past I have read extensively on the statistics about the number of people experiencing homelessness in the United States. The most commonly reported numbers that come from HUD are based on "point-in-time" counts, a mandatory bi-annual one-night census where the number of people sleeping unsheltered in the city are counted by volunteer enumerators. Researchers have experimented with methods for measuring the accuracy of these counts, including the use of decoys. Decoys are individuals dispersed on the streets the night of the count who are there to report whether or not they were approached by an enumerator. The known number of decoys and the number of decoys counted provides an idea of the accuracy of the point-in-time count (Wright and Devine 1992). I decided we should try decoy articles to gauge the thoroughness of our literature review.

Using a list of articles that were included in the original National Science Foundation proposal for our study and referred to me by co-authors before the search started, I selected 15 articles that met our search criteria and represented a diversity of authors, dates, and publications. Our search documentation showed that two-thirds of the decoy articles were identified in the keyword searches and another four articles showed up in the forward and backward search. Out of the 15 decoys, only one was missing (see Table 4).

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TABLE 4. Results from Searches with Decoy Articles

Author(s)	Date	Title	Journal/Institution	Decoy IDed in:
Airgood-Obrycki, W. & Hermann, A.	2020	"COVID-19 Rent Shortfalls in Small Buildings"	*Housing Perspectives,* Joint Center for Housing Studies, Harvard University	Backward Search (Decker, 2021)
Balzarini, J., & Boyd, M. L.	2020	"Working With Them: Small-Scale Landlord Strategies for Avoiding Evictions"	*Housing Policy Debate*	Keyword Search
Charles, S. L.	2020	"The financialization of single-family rental housing: An examination of real estate investment trusts' ownership of single-family houses in the Atlanta metropolitan area"	*Journal of Urban Affairs*	Keyword Search
Ellen, I. G., Hayashi, A., & Gross, B.	2013	"Maintenance and Investment in Small Rental Properties Findings from New York City and Baltimore"	NYU Furman Center	Backward Search (Decker, 2020)
Fields, D. & S. Uffer	2016	"The financialization of rental housing: A comparative analysis of New York City and Berlin"	*Urban Studies*	Keyword Search
Garboden, P. M. E., & S. Newman	2012	"Is preserving small, low-end rental housing feasible?"	*Housing Policy Debate*	Backward Search (Immergluck and Law, 2014)
Greif, M.	2018	"Regulating Landlords: Unintended Consequences for Poor Tenants"	*City and Community*	Keyword Search
Herbert, C., Lew, I., & R. Sanchez-Moyano	2013	"The Role of Investors in Acquiring Foreclosed Properties in Low- and Moderate-Income Neighborhoods: A review of findings from four case studies"	*Joint Center for Housing Studies, Harvard University*	**Not Identified**
Immergluck, D.	2018	"Renting the Dream: The Rise of Single-Family Rentership in the Sunbelt Metropolis"	*Housing Policy Debate*	Keyword Search
Immergluck, D., J. Ernsthausen, S. Earl & A. Powell	2020	"Evictions, large owners, and serial filings: findings from Atlanta"	*Housing Studies*	Keyword Search

Özogul, S., & T. Tasan-Kok	2020	"One and the Same? A Systematic Literature Review of Residential Property Investor Types"	*Journal of Planning Literature*	Keyword Search
Raymond, E. L., R. Duckworth, B. Miller, M. Lucas, & S. Pokharel	2016	"Corporate landlords, institutional investors, and displacement: Eviction rates in single family rentals"	Federal Reserve Bank of Atlanta	Keyword Search
Rosen, E. & P.M.E. Garboden	2022	"Landlord paternalism: Housing the poor with a velvet glove"	*Social Problems*	Forward Search, (Grief, 2018)
Teresa, B.F.	2016	"Managing fictitious capital: The legal geography of investment and political struggle in rental housing in New York City"	*Environment and Planning*	Keyword Search
Travis, A.	2019	"The Organization of Neglect: Limited Liability Companies and Housing Disinvestment"	*American Sociological Review*	Keyword Search

But is this good enough? I took an epidemiology class once where we discussed sensitivity statistics. I am sure, after three years of a global pandemic, most people are aware that diagnostic tests can be inaccurate; there will be some number of false positives and false negatives. A test's sensitivity is the probability that it will detect the presence of disease. In this analogy, our one undetected article is the relevant case that eluded is compared to the 14 true cases that did surface. Expressed in Epidemiology 101 terms: Sensitivity is the proportion of true positives over the total "relevant articles," in our case 14/15 or 93%. The clinical sensitivity of the COVID PCR tests is around 80%, which has been good enough for me on more occasions than I can count.

TABLE 5. Decoy Results (Epidemiology 101)

	Relevant Articles	Irrelevant Articles[3]
Test Positive	14	0
Test Negative	1	0
	Total Relevant = 15	**Total Irrelevant** = 0

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[3] It may have been interesting to more systematically track the irrelevant articles, but alas I did not.

FINALLY: Trust the humans

While writing our article, "Providing Rental Housing: A systematic literature review of residential rental property owner decision making," the authors identified seven more pieces for inclusion based on their experience and knowledge of the subjects. These seven articles did not turn up in the searches, which goes to show that databases are not ready to replace human experts, yet.

CONCLUSION

At the end of this process, we were very confident that we had identified a breadth of relevant articles in a range of disciplines in academic journals, books, and trade publications. There were 196 articles eligible for inclusion in the final review and a complete list of these articles and their identification method is available here.

ACKNOWLEDGEMENT

WORKS CITED

Wright, James D., and Joel A. Devine. 1992. "Counting the Homeless: The Census Bureau's 'S-Night' in Five U.S. Cities." *Evaluation Review* 16 (4): 355–64.

Xiao, Yu, and Maria Watson. 2019. "Guidance on Conducting a Systematic Literature Review." *Journal of Planning Education and Research* 39 (1): 93–112.