

Reasons for Residential Relocation: A Structuration Approach to Analyze Evolving Motivations in the Housing Market

Dale Robbennolt

The University of Texas at Austin
Department of Civil, Architectural and Environmental Engineering
301 E. Dean Keeton St. Stop C1761, Austin TX 78712, USA
Email: dar4836@utexas.edu

Chandra R. Bhat (corresponding author)

The University of Texas at Austin
Department of Civil, Architectural and Environmental Engineering
301 E. Dean Keeton St. Stop C1761, Austin TX 78712, USA
Tel: +1-512-471-4535; Email: bhat@mail.utexas.edu

ABSTRACT

Housing choices impact household financial stability, daily experiences, transportation access, social engagement, and well-being, while collectively shaping urban landscapes and market dynamics. Although substantial literature examines how people choose new homes, understanding who leaves their existing homes and the motivations underlying these decisions is equally important. We examine residential relocation through the lens of Giddens's structuration theory, conceptualizing relocations as resulting from interactions between individual needs and institutional forces, and grouping relocation motivations into four categories that jointly influence relocation decisions: (1) proactive planning processes, (2) disconnects between housing preferences and housing situations, (3) triggered reevaluations of housing situations, and (4) forced relocations. Drawing on data from the Puget Sound Regional Household Travel Survey collected in 2019, 2021, and 2023, we explore the reasons for relocation among those moving in the 2-year period prior to each survey wave and investigate how these reasons have evolved over time. We jointly model the binary decision to relocate with the set of relocation motivations, allowing us to generalize the potential considerations for a move to the broader population. Findings reveal significant shifts in motivations. We find that relocations in the 2021 period were less commonly motivated by proactive planning processes or forced relocations than they had been previously. Further, shifts in employment have had broad implications for housing outcomes by reducing motivations related to aligning home and workplace locations, while increasing attention to space at home. Our findings have broad implications for urban planning, housing market dynamics, transportation demand, and equity.

Keywords: Residential Relocation, Residential Mobility, Structuration Theory, Relocation Motivations, Urban Planning, Travel Demand

1. INTRODUCTION

Housing and residential location choices are widely understood to have significant implications across a wide range of life domains. From a household perspective, these decisions have long-lasting influences over the daily experiences and lifestyle patterns of household members, directly impacting their financial stability, transportation access to economic opportunities and other points of interest, social relationships and community engagement, and overall health and well-being (Chyn, 2018; De Vos et al., 2018; Swope and Hernández, 2019). At an aggregate level, housing decisions shape urban landscapes by influencing land-use patterns, determining the social and cultural makeup of neighborhoods, prompting changes to housing values, and affecting travel demand patterns (Bruch and Mare, 2006; Doling and Arundel, 2022). Not surprisingly, therefore, there is a substantial body of literature that focuses on how people choose their new homes. However, it is as important to understand who is leaving their existing homes to enter the housing market in the first place and why they are doing so. In fact, the decision to leave one's current home has similar long-term effects as the choice of a new home, influencing individual outcomes as well as the social and economic makeup of the urban landscape (Choi and Oishi, 2020; Desmond, 2022; Ong ViforJ et al., 2023). Further, as this is the initial decision that initiates the housing search process, the reasons for the relocation can also significantly impact the remainder of the housing choice process, shaping the housing search and influencing its outcome (see Saini and Pandit, 2025).

In the above context, residential mobility has often been assumed to be based primarily on either (1) changes in residential satisfaction due to changing external conditions (see, for example, Jiang et al., 2019, 2020; Jones and Dantzler, 2021) or (2) changes to the characteristics of the occupants over their life course (see, for example, Mulder and Hooimeijer, 1999; Clark, 2013; Ghasri et al., 2023). In addition, it has often been assumed (at least implicitly) in housing and residential location choice studies that the characteristics of the currently owned home correspond to the preferences of the current owners (see Zolfaghari et al., 2012; Bhat, 2015a; Frenkel and Kaplan, 2015; Lee et al., 2019; Robbennolt et al., 2024b). However, given the significant cost and challenges associated with relocation, it is likely in many cases that some families choose to remain in their existing home even as their preferences change over time. In fact, evidence in the social-psychology literature suggests that there are several mechanisms at play that could cause individuals to stay in homes that do not align well with their ideal preferences. First, according to Festinger's (1957) theory of cognitive dissonance, individuals who experience dissonance between their preferences and their actual situation may adjust their attitudes and preferences to align better with their current situation and reduce this dissonance (see also, van de Coevering et al., 2018). Second, even for individuals who do continue to maintain strong preferences at odds with their current living situation, they may stay in their current home due to loss aversion and the endowment effect. That is, individuals may place more value on the losses associated with moving away from their existing residence than the potential gains they could achieve by moving (Kahneman et al., 1991; Tan, 2021). These effects may be particularly powerful in the context of relocation decisions as individuals (1) feel that they have invested significant amounts of time/money in their current residence which may be lost when selling during market downturns (Lamorgese and Pellegrino, 2022) and (2) form an emotional attachment to their specific dwelling and location rather than simply its objective characteristics (Windsong, 2010; Clark et al., 2023; Wegener and Schmidt, 2024). Thus, a disconnect between a family's housing preferences and current housing situation may not always lead to a residential relocation. On the other hand, even if there is no substantial disconnect between housing preferences and the current housing situation,

a residential relocation may result because of other reasons such as (1) immediate triggers that force a relocation (such as a job loss or eviction), (2) similar immediate triggers that prompt a reactive but more voluntary reevaluation of the family's living situation (such as a new job opportunity or a broader change in economic conditions making new housing options available), or (3) proactive long-term planning processes that involve anticipating dramatic changes to housing needs at specific future times and planning relocations to meet these needs (such as planning a move to a larger home immediately before or after children are born or downsizing after retirement) (see Mulder and Hooimeijer, 1999; Pagani et al., 2021). Of course, the above reasons can also be at play alongside any existing gap between housing preferences and housing conditions.

Overall, then, rather than conceptualizing a residential relocation as resulting solely from an accumulation of discord between preferences and the current housing situation or changing needs/preferences (whether motivated by external factors or by changing characteristics of the occupants), it is important to consider the broad set of factors that may interact to motivate a residential relocation. Specifically, we conceptualize the issue of residential mobility using Giddens's (1979, 1984) structuration theory, accommodating the interactions between broad institutional factors that influence residential mobility and the needs of individual households which together influence these housing decisions. A key component of structuration theory is a duality where individual actions are influenced by social structures and the social context under which they are made, while, concurrently, individuals display agency through their actions to produce social structures themselves (Giddens, 1984). This can be clearly observed in the context of housing choices, where relocation decisions may be driven by structural forces (including changing economic or cultural conditions), which is one source that motivates relocations, but families also display agency by responding to their own changing needs (including in response to life course events or employment changes) or addressing these changing conditions in ways other than relocation (Duque-Calvache et al., 2021; Waldron, 2024). Thus, rather than conceptualizing relocations as resulting directly from a mismatch between housing preferences and existing housing circumstances or simply as a direct response to structural housing conditions, structuration theory would suggest that households navigate their own preferences and long-term goals in the context of continuously changing needs and evolving housing markets by making specific housing decisions as dictated by structural changes or major life events.

From a broader urban landscape standpoint, and as also suggested by structuration theory, household-level relocation motivations and decisions, as just discussed, themselves influence those of surrounding households, shaping the economic and social conditions of the local environment and housing market (Jones and Dantzler, 2021; Sadeghlou and Emami, 2023). For instance, a growth in demand for housing in a specific area, due to the aggregate decisions of families choosing to move to an area with specific characteristics, will influence the transportation system by causing increased travel demand for trip productions from that area. This change will influence traffic patterns and travel times, affecting the lifestyles of other families in that neighborhood and the surrounding area, and influencing their downstream transportation and housing decisions. These cyclical changes may cause additional households to reevaluate their housing circumstances; but the presence of such conditions does not necessitate a move, as some households will find various other approaches to address/resolve the effects of these situations (Waldron, 2024). Instead, such structural/institutional factors may contribute alongside other factors as individuals continually evaluate their own needs within the context of prevailing housing market conditions as both change over time. For instance, a family may have a long-term plan to

move from a current apartment to a single-family home when they have children, a proactive relocation process based on their own (anticipated) changing needs and preferences over time. However, they may still be influenced, around the time of the intended move, by the conditions of the housing market that may cause them to relocate before their child is born or delay their relocation until later, as they react to these changing conditions over this period. This framework is depicted in Figure 1, where four major mechanisms are shown that influence the residential relocation decision: (1) proactive planning processes, (2) disconnects between housing preferences and housing situations, (3) triggered reevaluations of housing situations, and (4) forced relocations. Each of these four reasons is classified as proactive or reactive and by the extent of the agency that households have when navigating relocations motivated by each reason. Finally, while it is possible that each of these may alone lead to a relocation (see the black arrows connecting each reason to the residential relocation outcome), the discussion of structuration theory above highlights that households are jointly influenced by multiple mechanisms.

Thus, in the current paper, we use the framework of structuration theory to explore residential relocation decisions, the range of motivating factors (including those originating internally and externally) that may serve to influence relocations, and the ways that this decision process has changed over the last several years in response to changing conditions in the housing market. We examine the decision to relocate and specific reasons for relocation among different households based on demographic characteristics and life cycle stages. In recognition of the broad set of preferences and conditions that interact to motivate residential relocations through each of the mechanisms described above, we include a set of eleven reasons for relocation together in a joint binary probit model. These include alterations to household composition that influence housing needs, specific changes to housing needs and preferences, triggered reevaluations of housing due to economic and financial changes in the broader housing market or changes to the local neighborhood, and forced relocations. Further, as these relocation decisions are influenced by continuously evolving socioeconomic conditions, we consider how the motivations for relocation have changed over time. Using data from the Puget Sound Regional Household Travel Survey collected in 2019, 2021, and 2023, we explore the reasons for relocation among those moving in the 2-year period prior to each survey wave and investigate how these reasons have evolved over time.

The rest of the paper is organized as follows. Section 2 provides an overview of relevant literature regarding the process of residential relocation and the reasons motivating residential moves. Section 3 describes the characteristics of the sample used and the modeling methodology employed. The model estimation results, and goodness of fit measures, are presented in Section 4. Finally, Section 5 presents the method used to quantify how the motivations for relocation have changed over time across the last several years and discusses the implications of this research, while Section 6 concludes the paper with a summary of important findings and future research directions.

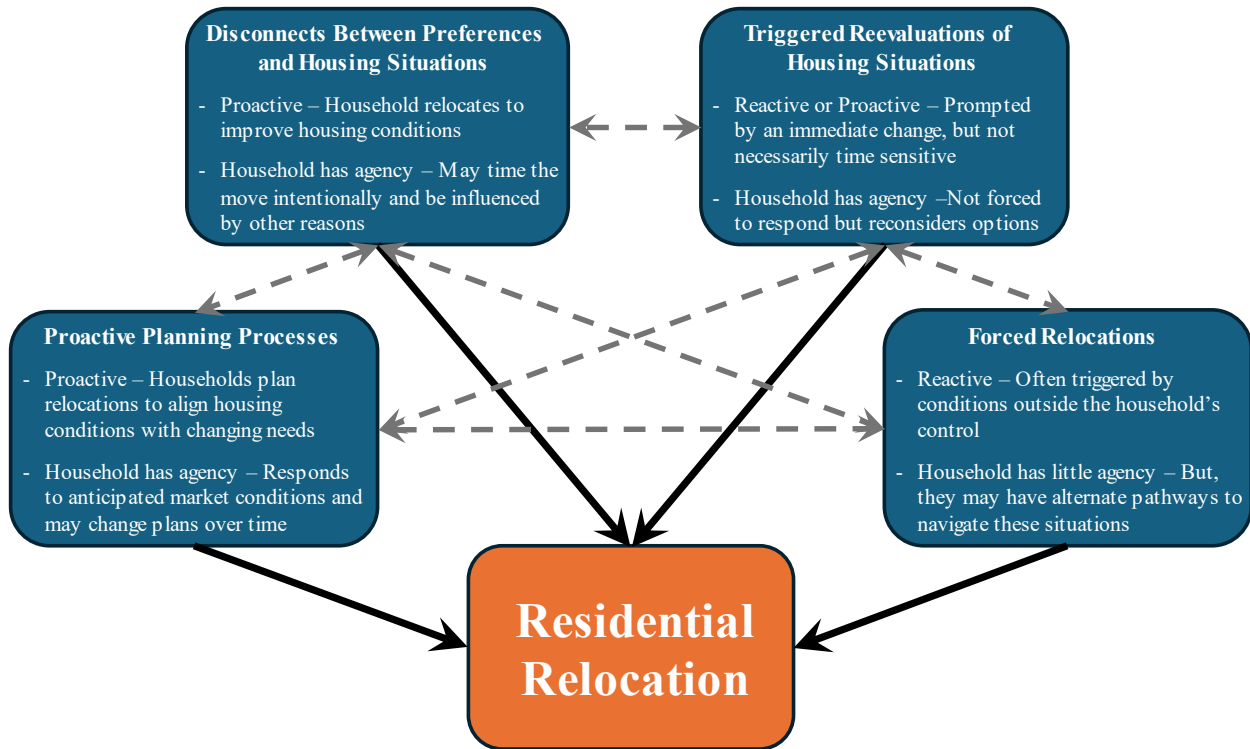


Figure 1: Mechanisms for Residential Relocation

2. LITERATURE OVERVIEW

2.1 Process of Residential Mobility

Housing relocations may be motivated by changing preferences over the life course or long-term planning processes. An extensive stream of research has investigated such considerations for a move, aligning with the mechanisms for relocations labeled “Proactive Planning Processes” and “Disconnects Between Preferences and Housing Situations” in Figure 1. These types of moves are generally more proactive, such as for improved access to work or to amenities or employment opportunities, upgrading to a higher quality home or a home with more/less space, aligning the characteristics of a family’s dwelling with their changing lifecycle characteristics, and may also be made in response to anticipated changes, such as those in income or finances (Vidal et al., 2017). For instance, from a life-course perspective, many authors have examined how relocations can occur in response to the changing needs and preferences of household members in response to major life events (Mulder and Hooimeijer, 1999; Clark and Huang, 2003; Orvin and Fatmi, 2022; Fu, 2025). Changes in household composition due to births, deaths, or children moving out to form their own households have significant implications in terms of needs for both residential location and dwelling unit characteristics. In particular, a recent or upcoming birth can increase the likelihood that a family will relocate, particularly in an effort to reduce housing costs, improve access to schools, and gain more bedrooms in the home (Vidal et al., 2017; Li, 2019). Similarly, changes in employment may lead to a reevaluation of a household’s location choice to realign the residential location with a new workplace location or lead to financial changes (positive or negative) that put pressure on the current housing situation or allow the household to upgrade to a more suitable dwelling unit (Weiss et al., 2021; Ghasri et al., 2023). Thus, due to the longer-term nature of these decisions, households moving for these types of reasons may be better suited to

undertake a detailed housing search for their new home, leading to better long-term housing satisfaction and housing stability.

Earlier studies in the literature on proactive moves, including those listed above, are often undertaken without the consideration of moves motivated by a reactive response to an event that forces a move or an immediate reconsideration of a household's current situation, such as an eviction, a significant increase in rent, or the loss of a job (see the mechanisms for relocation labeled "Triggered Reevaluation of Housing Situations" and "Forced Relocations" in Figure 1). Similarly, the studies that do consider such reactive moves do not typically consider moves motivated by changing preferences over the life course or longer-term proactive planning processes. Instead, studies of such reactive moves have generally focused on how external conditions impact individual relocations decisions. Such external factors may include evictions (Desmond et al., 2015; Summers and Steil, 2024), natural disasters (Jansen et al., 2017), changing economic conditions that influence incomes or home values (Kan, 1999; Ermisch and Washbrook, 2012), and social changes to neighborhoods due to events such as the COVID-19 pandemic or the decisions of other community members (Duque-Calvache et al., 2021; Li et al., 2022; Lee and Perkins, 2023). Some studies have also examined the moderating role of sociodemographic characteristics and attitudinal factors on how individual agents respond to these external factors (see Perera and Lee, 2021; Yadav et al., 2025). Similarly, the experience of major events such as the COVID-19 pandemic and the effects of these events on housing perceptions also varies significantly across the population (see, for example, Whitaker, 2021; Duque-Calvache et al., 2021; Robbennolt et al., 2024a). In general, though, any reactive move tends to be relatively sudden and unexpected, often giving residents little time to pursue a comprehensive search for their next home (Desmond et al., 2015). Thus, individuals relocating due to reactive reasons, particularly forced relocations, may quickly select an alternative from a narrow set of options that may not satisfy all their preferred characteristics in terms of dwelling unit characteristics or location (Evans, 2020; Saini and Pandit, 2025).

The above overview highlights the presence of two streams of research on housing relocations, one on relatively proactive moves and another on relatively reactive moves. However, the proactive and reactive motivations, as encompassed in the four relocation mechanisms of Figure 1, are closely linked so that, for example, a family experiencing a disconnect between their housing preferences and housing situation may not move until there is also a change (or planned change) in their financial situation or to external housing market forces (Clark, 2013). This process is a form of a habit discontinuity process, where status-quo habits are unlikely to be spontaneously reevaluated, and are instead considered only when a context change makes new information particularly salient (see Verplanken et al., 2008; Tao et al., 2023). In the context of housing decisions, there is evidence that households typically employ a broad range of strategies (such as altering non-housing expenditure patterns if housing costs rise; see, for example, Waldron, 2024) to avoid relocation unless there is another relocation trigger (for example, a new workplace) that also comes into play. These strategies demonstrate the agency that households can employ to respond to changing housing needs as well as the close connection between multiple motivations for relocating that may combine to prompt a move. Further, residential mobility itself is not necessarily either a beneficial or harmful process. Many studies have demonstrated that high levels of residential mobility may be due to households actively pursuing better employment opportunities or better housing conditions, leading to more beneficial upward social mobility prospects (Lawrence et al., 2015). Conversely, individuals with high levels of residential mobility due to evictions or forced displacement face a variety of challenges directly relating to housing

instability, which can lead to worse future housing outcomes, precarious employment situations, and a wide range of adverse physical and mental health outcomes (Desmond et al., 2015; Swope and Hernández, 2019). Thus, considering residential mobility or isolating any specific motivation for relocation is insufficient to characterize these broader impacts on housing and well-being outcomes without considering the combination of specific reasons that motivate a relocation.

2.2 Study in Context

In the current paper, we build upon the existing literature in several ways. First, we examine the range of factors that may serve to motivate residential relocations as well as heterogeneity across households in these motivations for relocation. In doing so, we identify population subgroups that are more likely to be motivated to relocate for different reasons, classifying these motivations based on the four identified mechanisms for relocation: proactive planning processes, disconnects between housing preferences and housing situations, triggered reevaluations of housing situations, and forced relocations. In recognition of the fact that a multitude of factors may, at once, play a role in any individual relocation occurrence, we allow respondents to choose multiple reasons for relocation and model these reasons jointly. Second, we conceptualize the relocation process in terms of Giddens's (1979, 1984) structuration theory as discussed above. Although structuration theory has been applied broadly in sociological and information systems research (Jones and Karsten, 2008; Khando et al., 2022), it has rarely been applied in the context of the housing choice process, and only in the context of specific types of constrained reactive relocations and for specific population segments (see Sarre, 1986; Fleischer, 2007; Perera and Lee, 2021; Lu and Burgess, 2023). We apply this theory more broadly, as even families who make relocation decisions according to proactive planning processes follow a similar process of adapting their actions to the evolving social and economic context. Third, given that these structural conditions change rapidly over time, we examine how the factors that lead to relocations have changed over the last several years. Using data from the Puget Sound Regional Household Travel Survey collected in 2019, 2021, and 2023, we explore the reasons for relocation among those moving in the 2-year period prior to each survey wave, connecting the changes in the reasons for relocation to evolving economic and social conditions that structurally impacted the housing market in the Puget Sound Region during this period. In doing so, we can identify how individuals intentionally time their relocations based on their own evolving needs and in response to these changing conditions. Finally, we jointly model the binary decision to relocate (at all) in the two-year period before each survey with the set of reasons for relocation (note that the reasons for relocation are collected only from those who actually relocated). This joint modeling approach accommodates unobserved correlation effects that occur between the overall relocation decision and each specific reason for relocation, allowing us to appropriately generalize the potential considerations for a move to the broader population rather than solely those who actually relocated in each period. Thus, consider the case that a combative, disagreeable, and aggressive attitude is an unobserved factor associated with individuals/households. Such an attitude may lead to a higher chance of a housing move because of being forced to move out (due to behavior inconsistent with societal norms). This would manifest itself in the form of a positive correlation in the error terms underlying the move decision and the “forced to move out” decision (as we found in our empirical analysis). The net result is that a random individual/household in the overall population (of movers as well as non-movers) would be less combative/disagreeable/aggressive than an individual/household in the pool of actual movers, and thus less likely to have to move because of the threat of being forced to move out. By explicitly recognizing (controlling for) the presence of such a possible correlation in error

terms influencing both the move and the “reason for considering a move” outcomes, we are better able to capture the “true” underlying motivations for considering a relocation as experienced by the entire population. This is particularly important in the case of relocation decisions where, as discussed above, many households may experience a significant disconnect between their housing preferences and existing housing circumstances without relocating and may delay relocations to navigate their changing needs and expectations about changing market conditions. Thus, being able to determine who may be experiencing housing challenges relating to a specific motivating reason (regardless of whether they actually end up relocating or not) is particularly valuable.

3. METHODOLOGY

3.1 Data Description

The data used for this study are drawn from three waves of the Puget Sound Regional Household Travel Survey (Puget Sound Regional Council, 2024). The three waves of data collection occurred from April through June 2019, April through June 2021, and March through June 2023. The study area was the Puget Sound (Greater Seattle, Washington) region, encompassing the King, Kitsap, Pierce, and Snohomish counties, a region including 82 cities and towns with a total population of over 1.5 million households. In each wave, an address-based sampling approach was used to select a new sample of households, and mailed invitations were sent to households in the study region inviting them to participate online or via phone call. In each wave, the sampling frame was stratified to oversample individuals living in census blocks with more racial and ethnic minorities and low-income individuals. Also important to note is that the three survey waves do not represent information obtained from a panel of households that are repeatedly sampled; rather the three waves represent information collected from independent cross-sectional samples of households at three different points in time (see RSG, 2024 for additional details of the survey administration procedure).

As one component of the survey, a reference adult from the household was asked how long the family had lived in their current residence. Then, for those individuals whose previous home was in Washington state, they were asked to select from a list of factors, which were important in their decision to move away from their previous residence. As discussed in more detail in the following sections, we combine the data from the three waves of collection and consider (a) if an individual moved within two years of the survey date, and (b) if they moved within two years, what their motivation was for moving. Across the three survey waves, this segments the sample into three periods, the segment from the first survey wave moving between April 2017 – June 2019 (3,044 respondents), the segment from the second survey wave moving between April 2019 – June 2021 (2,793 respondents), and the segment from the third wave moving between March 2021 – June 2023 (3,566 respondents). For ease, in the rest of this paper, we refer to these three periods (based on the survey date that represents the end of each period) as the 2019 period, the 2021 period, and the 2023 period. Respondents were allowed to select all the reasons that applied from the following list (classified into four categories based on the framework depicted in Figure 1):

Proactive planning processes

1. To have better access to work (e.g. better commute or take new job)
2. To upgrade to a better-quality home or to stop renting and buy a home
3. Change in who you live with (e.g., move out on your own, getting married/divorced)

Disconnects between preferences and housing situations

4. Needed more space
5. Needed less space

6. To have better access to recreation, restaurants, shops, and other amenities [*Asked only in 2023*]
7. Concerns about safety or crime

Triggered reevaluations of housing situations

8. Increase in housing costs, could no longer afford previous place
9. Change in income or finances, could no longer afford previous place
10. Friends, family, or cultural community left or were leaving the area

Forced relocations

11. Forced to move out (e.g., building demolished or renovated, asked to leave by landlord, foreclosure)

In addition to the eleven reasons listed above, participants were allowed to select three additional reasons for relocation, which were removed. In particular, because only a few respondents selected “Access to a different K-12 school,” “COVID-19 removed need to live in previous residence (e.g., no longer need to attend work or school in-person)” [*Asked only in 2021 and 2023*], or “Concerns about COVID-19 health risks” [*Asked only in 2021*] they were removed from consideration (fewer than 25 participants out of those who relocated within two years of their respective survey date selected each of these options in any wave). Additionally, 92 respondents (across all three waves) who only selected “Other reason” were provided the option to specify their own reason in a write-in field. Of the 92, 50 respondents provided reasons that overlapped substantially with one of the 11 itemized reasons listed above and were appropriately coded back. The remaining 40 provided reasons that did not overlap with our itemized reasons and were removed.

3.1.1 Endogenous Outcomes

Table 1 presents the share of individuals in each of the three periods who moved within two years of the survey date, along with the motivating reasons for relocation among those who moved. Overall, the share of individuals choosing to relocate in each two-year period has declined slightly over the three waves, from 21.1% (643 of 3,044 respondents relocated) in the 2019 period to 19.9% (555 of 2,793 relocated) in the 2021 period to 17.6% (628 of 3,566 relocated) in the 2023 period. The overall percentage of those who relocated across all three waves is 19.4% (1,826 of 9,403 respondents).

The results for the reasons for relocation are shown in the lower section of Table 1, shown by the percentage of respondents selecting each reason out of those who relocated within two years (note that since each respondent was allowed to select as many reasons as applied, the entries in the table add up to more than 100%). As may be observed from the table, the most common reasons for relocation across the three waves are “Needed more space” and “To upgrade to a better-quality home or to stop renting and buy a home,” each of which was selected by more than 30% of relocating respondents in each wave. Another commonly selected reason was “Change in who you live with (e.g., move out on your own, getting married/divorced),” although, this reason seemed to be less common in the 2021 period. Conversely, it seems relatively uncommon that individuals move due to the reasons “Change in income or finances, could no longer afford previous place,” “Friends, family, or cultural community left or were leaving the area,” “Needed less space,” or “Forced to move out (e.g., building demolished or renovated, asked to leave by landlord, foreclosure),” each of which was selected by less than 10% of relocating respondents in each period. These aggregate statistics also reveal some interesting changes over the course of this six-year period. Overall, it seems that many of the changes that occurred between the 2019 period and

the 2021 period have reverted somewhat towards the original 2019 levels in the 2023 period. For instance, the share of respondents moving because they “Needed more space” grew significantly during the 2021 period, although it dropped off somewhat in the 2023 period. Similarly, the number of respondents moving because “Friends, family, or cultural community left or were leaving the area” was higher during the 2021 period than either of the other periods. In contrast, the prevalence of being “Forced to move out (e.g., building demolished or renovated, asked to leave by landlord, foreclosure)” was relatively stable between the 2019 period and 2021 period, but declined significantly in the 2023 period (see the last row of Table 1).

3.1.2 Exogenous Variables

For each survey wave, Table 2 provides the distribution of household characteristics for respondents in the sample compared with estimates from the American Community Survey (ACS) 1-year estimates for corresponding years. The variables are grouped in three categories: (1) Lifecycle and Household Composition variables, (2) Employment-Related and Education variables, and (3) Race and Ethnicity variables. For household lifecycle variables, the ACS does not provide comparable household lifecycle estimates. For these lifecycle variables, we group households based on the age of adults in the household, labeling households with adults aged 18-44 as “young households,” those with adults aged 45-64 as “middle-aged households,” and those with adults aged 65+ as “older households.” For households with adults falling into multiple age categories, those with adult children, grandchildren, or adults living with parents or grandparents were labeled as extended/multigenerational, while those with partners or roommates across two lifecycle categories were grouped into the older category (see Du and Kamakura, 2006 for an extended discussion of this type of lifecycle grouping). In terms of household composition as it relates to the number of adults by gender in the household, the sample and corresponding ACS estimates are quite close, except in 2021 when there is a clear overrepresentation of the “other” category of households. This may be because larger households, relative to smaller households, may have been relatively more present in the home and available to participate in online surveys during the pandemic (Rothbaum and Bee, 2021). In terms of household composition as it relates to the presence of children, the ACS only reports the presence of children in the household without distinguishing further based on age. However, at this level, the survey tends to underrepresent households with children compared with the ACS, particularly in the 2023 wave. Further, while employment statistics in the ACS are only available at the person level rather than the household level, the sample exhibits an overrepresentation of low-income households and households with the highest level of educational attainment by any household member being a graduate degree, and an underrepresentation of high-income households and households with lower levels of educational attainment across all three waves (note that the educational attainment variable in Table 2, which is also used in our model estimation, refers to the highest education attainment across all individuals in the respondent’s household). Finally, there seems to be an overrepresentation of families from “Other” racial groups (compared with those identifying as solely white, Black, or Asian), particularly in the 2021 wave, and Hispanic individuals are underrepresented in the 2019 and 2021 waves while being overrepresented in the 2023 wave. Despite these differences between the current data and the ACS estimates, weighting is unnecessary for the individual-level analysis undertaken in this study, as the sample was not collected from an endogenous sampling scheme and has substantial variation in each of the exogenous variables included (Solon et al., 2015; Robbennolt et al., 2025).

Table 1: Descriptive Statistics of Outcomes (Total N=9,403)

Relocation Occurred During 2-Year Period	2019 Period (N=3,094)	2021 Period (N=2,793)	2023 Period (N=3,566)	Overall (N=9,403)
Yes	21.1	19.9	17.6	19.4
No	78.9	80.1	82.4	80.6
Reasons for Relocation (among those who relocated)	2019 Period	2021 Period	2023 Period	Overall
Proactive planning processes				
To have better access to work (e.g. better commute or take new job)	26.7	18.4	20.5	22.1
To upgrade to a better-quality home or to stop renting and buy a home	35.6	30.1	31.1	32.4
Change in who you live with (e.g., move out on your own, getting married/divorced)	31.7	25.8	31.8	30.0
Disconnects between preferences and housing situations				
Needed more space	30.5	41.1	35.4	35.4
Needed less space	7.5	5.4	7.2	6.7
To have better access to recreation, restaurants, shops, and other amenities*	--	--	19.4	6.7
Concerns about safety or crime	12.1	14.8	11.0	12.5
Triggered reevaluations of housing situations				
Increase in housing costs, could no longer afford previous place	17.9	15.7	21.2	18.3
Change in income or finances, could no longer afford previous place	5.0	5.9	5.4	5.4
Friends, family, or cultural community left or were leaving the area	6.4	8.3	5.6	6.7
Forced relocations				
Forced to move out (e.g., building demolished or renovated, asked to leave by landlord, foreclosure)	8.6	8.5	5.6	7.5

*Only available in the 2023 period

Table 2: Descriptive Statistics of Exogenous Variables by Period

Variable	2019 Period		2021 Period		2023 Period	
	Sample	ACS	Sample	ACS	Sample	ACS
<i>Lifecycle and Household Composition Variables</i>						
Lifecycle						
Young (Adults 18-44)	47.0	--	34.6	--	41.1	--
Middle-aged (Adults 45-64)	24.0	--	20.6	--	23.2	--
Older (Adults 65+)	17.7	--	19.9	--	22.3	--
Extended/Multigenerational	11.3	--	24.9	--	13.4	--
Number of adults by gender						
Single male adult	19.5	19.1	13.5	18.6	17.4	19.8
Single female adult	23.5	23.7	15.9	22.7	23.9	23.6
Two adults (any gender combination)	41.0	44.0	40.1	45.5	40.1	43.1
Other (more than two adults)	16.0	13.2	30.5	13.2	18.6	13.5
Children						
Presence of children aged 0-4	7.9	--	9.8	--	6.7	--
Presence of children aged 5-11	7.5	--	12.3	--	8.7	--
Presence of children aged 12-17	5.1	--	11.7	--	6.4	--
Total presence of children under 18	19.5	28.6	25.7	29.1	13.4	29.6
<i>Employment-Related and Education Variables</i>						
Employment						
Presence of employed adult	80.4	--	74.0	--	73.4	--
Presence of adult with more than one job	9.6	--	9.4	--	9.5	--
Households with at least one adult experiencing a job change in the past five years	42.3	--	24.2	--	39.1	--
Household Income						
Less than \$50,000	29.9	25.3	36.2	23.9	30.6	21.3
\$50,000-\$99,999	29.0	28.0	28.2	25.7	24.4	24.0
\$100,000-\$199,999	29.3	30.9	25.4	31.3	28.7	31.5
\$200 or more	11.8	15.8	10.2	19.1	16.3	23.2
Educational Attainment						
Less than bachelor's degree	20.8	47.3	35.7	44.6	23.0	43.1
Bachelor's degree	39.2	35.8	33.9	37.1	36.1	37.3
Graduate degree	40.0	16.9	30.4	18.3	40.9	19.6
<i>Race and Ethnicity Variables</i>						
Race						
White	67.4	67.5	57.8	66.0	61.2	60.8
Black	2.4	4.7	4.1	5.9	3.2	5.9
Asian	9.4	10.4	10.8	14.1	13.0	14.9
Other	20.8	17.4	27.3	14.0	22.6	18.4
Ethnicity						
Hispanic	5.5	11.8	7.1	10.4	21.3	10.8
Not Hispanic	94.5	88.2	92.9	89.6	78.7	89.2

3.2 Analytic Framework

The modeling framework consists of a multivariate binary-response probit modeling system with twelve dimensions. The first is the binary decision regarding whether a family moved or not during the two-year period prior to taking the survey. Next, for those families who moved within two years of the survey date, the next eleven outcomes correspond to binary responses for each of the eleven possible reasons for relocating. Since participants were able to select any combination of these eleven reasons for relocation, they are all included as binary outcomes indicating whether each specific reason was a factor in their decision to relocate. These twelve outcome dimensions

are modeled jointly to accommodate unobserved correlation effects that would cause an individual who is more likely to choose to relocate to also select any specific reason for relocation or for any individual to be more likely to select some combination of motivating reasons for relocation.

Beyond identifying the motivations that different individuals have for relocation in general, we are interested in determining how these reasons have changed over time across the three waves of data collection and across population subgroups. To do so, we used two binary indicators to identify the period that each respondent answered the survey, as shown in Figure 2. The first indicator (labeled the “2021-effect” indicator) takes the value 0 for respondents in the 2019 survey wave and the value 1 for respondents in the 2021 or 2023 survey waves. The second indicator (labeled the “2023-effect” indicator) takes the value 0 for respondents in the 2019 and 2021 survey waves and the value 1 for respondents in the 2023 survey waves. Then, each indicator is interacted with the other exogenous variables to create three sets of effects (see the labels at the bottom of Figure 2). First, each exogenous variable is included (without interactions with either indicator) to produce a baseline reference effect on the propensity of selecting each outcome. Second, each indicator is included in the model independently, to capture general changes to the underlying propensities of each outcome for each period. The 2021-effect indicator represents a general shift compared with the reference 2019 propensities, while the 2023-effect indicator represents a general shift compared with the 2021 propensities. Third, interaction terms are included between each indicator and each exogenous variable to reveal the shifting effects of each exogenous variable on the underlying propensities for each outcome in the 2021 period and 2023 period, respectively. Consequently, the total effect of an exogenous variable in the 2021 period is simply the sum of the reference effect of the exogenous variable included independently and the interaction effect of the exogenous variable with the 2021-effect indicator. Similarly, the total effect of an exogenous variable in the 2023 period is simply the sum of the reference effect of the exogenous variable included independently and the interaction effects of the exogenous variable with both the 2021-effect indicator and the 2023-effect indicator. For cases when an exogenous variable does not appear independently, this implies that the variable had no impact on the underlying propensity of the outcome in the 2019 period, and the effect only emerged in a later period. Conversely, if an exogenous variable does not appear as an interaction with both indicators, this implies that the exogenous variable effect is identical to that from the 2019 period. The following section describes the mathematical formulation of the multivariate binary-response probit model.

Survey Wave	Respondent	Constant	Exogenous Variables	2021-effect Indicator	2023-effect Indicator	Exogenous Variables * 2021-effect	Exogenous Variables * 2023-effect
2019 Survey Wave	1	1	data	0	0	data*0=0	data*0=0
	2	1	data	0	0	data*0=0	data*0=0
	3	1	data	0	0	data*0=0	data*0=0
2021 Survey Wave	4	1	data	1	0	data*1=data	data*0=0
	5	1	data	1	0	data*1=data	data*0=0
	6	1	data	1	0	data*1=data	data*0=0
2023 Survey Wave	7	1	data	1	1	data*1=data	data*1=data
	8	1	data	1	1	data*1=data	data*1=data
	9	1	data	1	1	data*1=data	data*1=data
Effects:		Baseline 2019 Effect		Generic Shock Effects		Exogenous Variable Shock Effects	

Figure 2: Data Structure for Temporal Effects

3.3 Model Formulation

Following the standard formulation for a binary probit model, denote the index for each respondent in the sample as q ($q = 1, 2, \dots, Q$) and the index for each of the binary outcomes as i ($i = 1, 2, \dots, I$). For the current application, $Q = 9,403$ (across all three waves). From among these individuals, for those who reported moving in any of the waves (1,826 respondents), $I = 12$, corresponding to the decision to move or not and the eleven reasons for moving. For the remaining 7,577 respondents who reported not moving, $I = 1$, corresponding to the decision to move or not. These 7,577 respondents contribute only to the estimation of the binary move/not move model.

In the following presentation, we will focus on the likelihood function development for the 1,826 respondents with twelve binary outcomes. Suppressing the index q for respondents, the latent propensity (y_i^*) for each of the binary outcomes may be expressed as the difference between the utility of selection (U_i^1) and the utility of non-selection (U_i^0) for each outcome. These latent propensities can be written as:

$$y_i^* = U_i^1 - U_i^0 = \beta_i' \mathbf{x} + \varepsilon_i \quad (1)$$

where \mathbf{x} represents an $(L \times 1)$ vector of exogenous variables (including a constant), β_i represents a corresponding $(L \times 1)$ vector of parameters to be estimated, and ε_i represents a standard normal error term. The error term ε_i is also assumed to be independent and identically distributed across all respondents in the sample. As in the usual discrete choice formulation, the actual underlying latent propensities (y_i^*) are not observable in the sample. Rather, only the binary responses $y_i = 0$ (for $y_i^* \leq 0$) and $y_i = 1$ (for $y_i^* > 0$) are observed. Thus, if we define m_i ($m_i \in \{0, 1\}$) as the actual selected alternative for outcome i , then each individual can be assumed to select $y_i = m_i$ if $\theta^{m_i-1} < y_i^* < \theta^{m_i}$, for $\theta^{-1} = -\infty$, $\theta^0 = 0$, and $\theta^1 = \infty$.

Next, to address the joint nature of the model, the error vector $\boldsymbol{\varepsilon} = (\varepsilon_1, \varepsilon_2, \dots, \varepsilon_I)'$ is assumed to follow a multivariate normal distribution with a mean vector of zeros and a general correlation matrix given by:

$$\boldsymbol{\Sigma} = \begin{pmatrix} 1 & \rho_{12} & \rho_{13} & \cdots & \rho_{1I} \\ \rho_{12} & 1 & \rho_{23} & \cdots & \rho_{2I} \\ \rho_{13} & \rho_{23} & 1 & \cdots & \rho_{3I} \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ \rho_{1I} & \rho_{2I} & \rho_{3I} & \cdots & 1 \end{pmatrix}. \quad (2)$$

The off-diagonal elements ρ_{ij} within the correlation matrix $\boldsymbol{\Sigma}$ capture error correlations among the underlying latent propensities of the I endogenous outcomes. These correlations account for the presence of unobserved factors that may simultaneously influence multiple outcomes. Next, stack the I lower thresholds for each decision maker into a vector $\boldsymbol{\theta}_{low} = (\theta^{m_1-1}, \theta^{m_2-1}, \dots, \theta^{m_I-1})'$ and the I upper thresholds for each decision maker into a vector $\boldsymbol{\theta}_{up} = (\theta^{m_1}, \theta^{m_2}, \dots, \theta^{m_I})'$. Also, stack the variables across the outcomes, such that $\mathbf{y}^* = (y_1^*, y_2^*, \dots, y_I^*)'$ and $\boldsymbol{\beta} = (\beta_1, \beta_2, \dots, \beta_I)'$. Note that, for the purposes of estimation, each of these vectors must be marginalized for all individuals

without a complete set of outcomes to include only the single outcome indicating whether they had moved or not (all individuals who have not moved within two years will have $y_1 = 0$ and are not asked about the reasons for relocation, all others will have $y_1 = 1$ and a full set of twelve total outcomes). Additionally, those individuals with only a single outcome will have a marginalized error vector consisting of a single standard normal error term with mean zero and standard deviation one.

Then, in matrix form, latent propensities for the joint set of outcomes can be rewritten as:

$$\mathbf{y}^* = \boldsymbol{\beta}'\mathbf{x} + \boldsymbol{\varepsilon}, \quad \boldsymbol{\theta}_{low} < \mathbf{y}^* < \boldsymbol{\theta}_{up}, \quad \text{where } \mathbf{y}^* \sim MVN_I(\boldsymbol{\beta}'\mathbf{x}, \boldsymbol{\Sigma}), \quad (3)$$

where $MVN_I(\boldsymbol{\beta}'\mathbf{x}, \boldsymbol{\Sigma})$ is the I -dimensional multivariate normal distribution with mean $\boldsymbol{\beta}'\mathbf{x}$ and correlation matrix $\boldsymbol{\Sigma}$. Now, define a vector $\boldsymbol{\delta}$ that contains all the parameters to be estimated:

$$\boldsymbol{\delta} = \left([\text{Vech}(\boldsymbol{\beta})]', [\text{Vechup}(\boldsymbol{\Sigma})]' \right)', \quad \text{where the operator "Vech(.)" row-vectorizes all the non-zero}$$

elements of the matrix/vector on which it operates, and the operator $\text{Vechup}(\cdot)$ row-vectorizes the upper diagonal elements of a matrix. Then, likelihood function for the individual may be written as:

$$L(\boldsymbol{\delta}) = \Pr[\boldsymbol{\theta}_{low} < \mathbf{y}^* < \boldsymbol{\theta}_{up}] = \int_{D_r} f_I(\mathbf{r} | \boldsymbol{\beta}'\mathbf{x}, \boldsymbol{\Sigma}) d\mathbf{r}, \quad (4)$$

where the integration domain $D_r = \{\mathbf{r} : \boldsymbol{\theta}_{low} < \mathbf{r} < \boldsymbol{\theta}_{up}\}$ is simply the multivariate region of the \mathbf{y}^* vector truncated by the upper and lower thresholds. $f_I(\mathbf{r} | \boldsymbol{\beta}'\mathbf{x}, \boldsymbol{\Sigma})$ is the I -dimensional multivariate normal density function with a mean of $\boldsymbol{\beta}'\mathbf{x}$ and a correlation matrix $\boldsymbol{\Sigma}$. The log-likelihood function for the entire sample of Q decision-makers is simply the sum of the individual-level log-likelihood functions (where the contribution of the 7,577 respondents who reported not moving is simply that corresponding to a simple binary probit model). The integral in Equation (4) involves an integral of up to 12 dimensions, which is computed using matrix-based analytic approximation approaches (see Bhat, 2018).

4. RESULTS

The final model specification is shown in Table 3 (a "--" entry in the table indicates that the row exogenous variable does not have a statistically significant impact on the column endogenous outcome). The final model specification was developed based on an iterative process of testing various combinations of exogenous variables and including variables in alternative forms based on statistical fit. Variables were included as categorical variables in their most disaggregate form available and systematically combined based on statistical tests to develop a parsimonious specification. Interaction effects among variables were also considered (such as the number of adults by gender combined with presence of children of different age groups). A t-statistic threshold of 1.65 (corresponding to a 0.1 level of significance or a 90% confidence level) was used to retain variables in the model estimation process. The remainder of this section describes the main estimation results (Section 4.1), the correlations estimated in the model (Section 4.2), and the model fit (Section 4.3).

Table 3: Main Estimation Results (1/3)

Variables (base)	Move Within Two Years	Reason For Considering a Move											
		Proactive Planning			Disconnects Between Preferences and Housing				Triggered Reevaluations			Forced Relocation	
		Better access to work	Upgrade or buy a home	Change in who you live with	Need for more space	Need for less space	Better access to amenities	Concerns about safety or crime	Increase in housing costs	Change in income or finances	Friends leaving	Threat of being forced to move out	
		Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat
Constant	-0.36 -5.87	-1.04 -3.09	-0.95 -6.04	-0.44 -2.87	-0.68 -6.03	-1.54 -5.46	-1.09 -4.39	-0.47 -2.45	-0.83 -10.62	-1.86 -8.89	-1.72 -14.11	-1.50 -8.66	
2021 Shift	0.10 2.01	0.25 0.76	0.07 0.43	-0.25 -1.75	0.36 3.88	-0.25 -0.73	--	-0.48 -2.28	0.14 1.19	0.52 2.14	-0.14 -0.50	-0.11 -1.15	
2023 Shift	-0.44 -3.98	-0.28 -0.81	0.05 0.46	0.54 2.97	-0.21 -2.13	-0.07 -0.34	--	-0.30 -0.97	-0.18 -1.09	0.07 0.19	0.60 1.63	-0.25 -0.96	
<i>Lifecycle and Household Composition Variables</i>													
Lifecycle (Young (Adults 18-44))													
Middle-aged (Adults 45-64)	-0.81 -14.09	--	-0.41 -3.74	-0.30 -2.68	-0.41 -3.84	--	--	--	--	--	--	--	--
Middle-aged (Adults 45-64) * 2023 Shift	0.15 1.73	--	--	--	--	0.56 2.45	--	--	-0.54 -2.50	--	--	--	--
Older (Adults 65+)	-0.90 -9.66	--	-1.13 -3.25	-0.40 -2.31	-1.17 -2.98	1.38 4.94	--	--	-0.41 -2.29	0.67 2.41	0.71 3.26	-0.59 -3.24	
Older (Adults 65+) * 2021 Shift	-0.25 -1.95	--	0.75 1.86	--	0.72 1.92	-0.53 -1.84	--	--	--	-0.67 -2.09	--	--	--
Older (Adults 65+) * 2023 Shift	0.31 2.07	--	--	--	--	0.47 1.67	--	--	--	--	-0.96 -1.88	--	--
Extended/multigenerational	-0.58 -9.24	--	-0.59 -2.32	-0.71 -2.34	-0.40 -2.98	--	--	--	--	0.74 2.49	0.61 2.07	--	--
Extended/multigenerational * 2021 Shift	--	--	0.50 1.81	0.69 2.11	--	--	--	--	--	-0.76 -2.23	-0.79 -2.20	--	--
Extended/multigenerational * 2023 Shift	0.12 1.66	--	--	--	0.30 1.90	--	--	--	--	--	--	--	--
Number of Adults by Gender (2+adults)													
Single male adult	-0.14 -2.01	--	-0.16 -1.71	--	-0.53 -5.25	0.49 2.53	--	-0.34 -1.72	--	0.42 2.19	0.20 2.13	--	--
Single male adult * 2021 Shift	0.24 2.22	--	--	--	--	-0.39 -1.67	--	0.29 1.70	--	--	--	--	--
Single male * 2023 Shift	-0.19 -1.66	--	--	--	--	0.34 1.72	--	--	--	-0.21 -1.94	--	--	--
Single female adult	0.11 2.32	--	-0.24 -2.44	--	-0.39 -4.15	--	--	--	--	0.34 1.87	0.25 1.91	--	--
Single female adult * 2021 Shift	--	--	--	--	--	--	--	0.21 1.67	--	--	--	--	--
Single female adult * 2023 Shift	--	--	--	--	--	--	--	--	--	-0.23 -1.67	--	--	--
Presence of Children (No children)													
Children aged 0-4	0.13 2.23	-0.30 -2.32	0.39 2.75	0.57 4.01	0.37 3.11	-0.52 -2.41	--	0.34 2.57	0.34 1.94	--	--	0.35 2.82	
Children aged 0-4 * 2021 Shift	--	--	--	--	--	--	--	--	-0.68 -2.43	--	--	--	--
Children aged 0-4 * 2023 Shift	--	--	-0.31 -1.91	-1.01 -3.80	--	--	--	--	--	--	--	--	--
Children aged 5-11	-0.24 -4.58	-0.35 -1.93	--	0.58 2.26	0.48 1.91	-0.52 -2.41	-0.72 -2.77	--	--	--	--	0.35 2.82	
Children aged 5-11 * 2021 Shift	--	--	--	-0.47 -2.15	-0.39 -2.10	--	--	--	-0.32 -2.05	--	--	--	--
Children aged 5-11 * 2023 Shift	--	--	--	-0.56 -1.66	--	--	--	--	--	--	--	--	--
Children aged 12-17	-0.24 -4.58	--	--	--	--	-0.52 -2.41	-0.72 -2.77	--	--	--	--	0.35 2.82	
Children aged 12-17 * 2021 Shift	--	--	--	--	--	--	--	--	-0.32 -2.05	--	--	--	--

Table 3: Main Estimation Results (2/3)

Variables (base)	Move Within Two Years	Reason For Considering a Move											
		Proactive Planning			Disconnects Between Preferences and Housing				Triggered Reevaluations			Forced Relocations	
		Better access to work	Upgrade or buy a home	Change in who you live with	Need for more space	Need for less space	Better access to amenities	Concerns about safety or crime	Increase in housing costs	Change in income or finances	Friends leaving	Threat of being forced to move out	
		Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	
Employment-Related and Education Variables													
Employment (no adult employed)													
Presence of employed adult	--	0.54 2.02	--	0.24 1.82	--	-0.60 -2.21	0.24 1.75	-0.32 -2.23	--	--	--	-0.49 -3.09	
Presence of employed adult * 2021 Shift	--	-0.73 -2.20	--	--	--	0.42 1.82	--	--	--	-0.34 -1.93	0.48 1.66	--	
Presence of employed adult * 2023 Shift	0.14 2.29	0.54 2.00	--	--	--	--	--	0.55 1.70	--	-0.42 -1.77	-0.79 -1.87	0.39 1.86	
Adult with more than one job	0.11 2.17	0.20 1.83	--	--	0.30 1.79	--	--	--	--	0.37 2.18	--	--	
Adult with more than one job * 2021 Shift	-0.15 -2.36	--	--	--	-0.25 -1.82	--	--	--	--	--	--	--	
Job change in past five years	0.10 2.35	0.18 1.87	--	0.22 1.88	--	--	--	--	--	0.24 1.77	--	--	
Job change in past five years * 2021 Shift	--	--	--	-0.17 -1.99	--	--	--	--	--	--	--	--	
Job change in past five years * 2023 Shift	0.13 1.76	0.27 1.69	--	--	--	--	--	--	--	--	-0.46 -2.02	--	
Household Income (Less than \$50,000)													
\$50,000-\$99,999	--	--	0.30 3.13	-0.33 -3.59	0.16 1.70	0.29 2.27	--	--	--	-0.34 -1.99	--	--	
\$50,000-\$99,999 * 2021 Shift	--	0.50 2.95	--	--	--	--	--	--	-0.32 -1.97	--	--	-0.38 -2.90	
\$50,000-\$99,999 * 2023 Shift	--	-0.29 -1.80	--	--	--	--	--	--	0.57 2.40	0.38 1.84	--	--	
\$100,000-\$199,999	-0.16 -3.13	--	0.65 6.28	-0.37 -3.26	0.24 2.39	0.29 2.27	--	--	-0.43 -3.54	-0.55 -2.53	--	-0.38 -2.90	
\$100,000-\$199,999 * 2021 Shift	--	0.57 3.03	--	--	--	--	--	--	--	--	--	--	
\$100,000-\$199,999 * 2023 Shift	0.14 1.87	-0.84 -3.22	--	-0.28 -2.44	--	--	--	--	0.58 2.73	0.42 1.75	--	-0.24 -1.79	
\$200 or more	-0.20 -2.81	-0.42 -2.14	1.00 7.77	-0.49 -3.23	0.33 2.67	0.64 3.25	--	--	-0.43 -2.48	-0.76 -2.06	--	-0.43 -2.63	
\$200 or more * 2021 Shift	--	0.55 2.26	--	--	--	--	--	--	--	--	--	--	
\$200 or more * 2023 Shift	--	-0.34 -1.70	--	-0.33 -2.28	--	-0.51 -1.92	--	--	0.42 2.32	--	--	-0.51 -2.29	
Educational Attainment (Less than bachelor's degree)													
Bachelor's degree	-0.11 -2.56	--	0.41 2.54	--	--	--	0.10 1.84	-0.30 -2.03	--	-0.27 -2.29	--	--	
Bachelor's degree * 2021 Shift	--	--	-0.31 -2.00	0.26 1.86	0.18 2.05	--	--	0.46 1.89	--	--	--	--	
Bachelor's degree * 2023 Shift	--	--	--	-0.29 -2.10	--	--	--	-0.58 -2.17	--	--	--	--	
Graduate degree	-0.15 -3.31	0.28 2.41	0.44 2.60	--	--	--	0.10 1.84	-0.52 -2.53	--	--	--	--	
Graduate degree * 2021 Shift	--	-0.33 -2.12	-0.30 -1.93	0.26 1.86	0.18 2.05	--	--	0.52 1.94	--	--	--	--	
Graduate degree * 2023 Shift	--	--	--	-0.29 -2.10	--	--	--	-0.38 -1.83	--	--	--	--	

Table 3: Main Estimation Results (3/3)

Variables (base)	Move Within Two Years	Reason For Considering a Move											
		Proactive Planning			Disconnects Between Preferences and Housing				Triggered Reevaluations			Forced Relocations	
		Better access to work	Upgrade or buy a home	Change in who you live with	Need for more space	Need for less space	Better access to amenities	Concerns about safety or crime	Increase in housing costs	Change in income or finances	Friends leaving	Threat of being forced to move out	
		Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	Coeff. t-stat	
Race and Ethnicity Variables													
Race (White)													
Asian	0.10 1.88	0.19 1.88	--	-0.28 -2.21	0.22 1.86	--	--	--	0.32 1.91	--	-0.34 -1.70	-0.35 -1.90	
Asian * 2021 Shift	--	--	--	--	--	--	--	--	-0.59 -2.09	--	--	--	
Asian * 2023 Shift	--	--	-0.30 -1.92	0.42 2.06	-0.30 -1.94	--	--	--	0.40 2.14	0.63 2.53	0.66 2.12	--	
Black or Other	--	0.58 1.90	--	-0.30 -2.88	--	--	-0.59 -1.92	-0.36 -1.90	--	--	--	0.32 1.86	
Black or Other * 2021 Shift	--	-0.50 -1.87	--	--	--	--	--	0.54 2.46	--	--	--	--	
Black or Other * 2023 Shift	--	--	--	0.30 1.90	--	--	--	--	--	--	--	--	
Ethnicity (Not Hispanic)													
Hispanic	0.16 1.74	--	--	--	0.19 1.83	--	-0.28 -1.69	-0.34 -2.17	--	0.26 2.26	--	0.15 1.94	
Hispanic * 2021 Shift	-0.21 -1.70	--	-0.21 -1.70	--	--	--	--	--	0.34 2.65	--	--	--	
Hispanic * 2023 Shift	--	--	--	--	--	--	--	0.29 1.72	--	--	--	--	
Correlations (only top diagonal shown)													
Move Within Two Years	1.00	-0.22 -1.70	--	--	--	--	--	--	--	--	--	0.83 7.28	
Better access to work	--	1.00	-0.16 -3.40	--	--	0.21 2.58	0.50 7.08	--	-0.13 -2.42	--	0.27 4.15	-0.30 -3.23	
Upgrade or buy a home	--	--	1.00	-0.30 -6.20	0.34 8.13	-0.30 -3.22	-0.13 -1.68	0.26 4.51	-0.09 -1.70	-0.20 -2.07	-0.23 -2.76	-0.17 -2.53	
Change in who you live with	--	--	--	1.00	-0.11 -2.44	--	--	-0.22 -3.60	-0.22 -4.03	--	--	--	
Need for more space	--	--	--	--	1.00	--	-0.24 -3.87	0.28 5.20	--	-0.23 -2.40	--	-0.58 -5.90	
Need for less space	--	--	--	--	--	1.00	0.30 2.38	-0.21 -1.99	--	0.29 2.41	0.23 2.18	--	
Better access to amenities	--	--	--	--	--	--	1.00	--	--	--	0.32 2.61	-0.17 -1.96	
Concerns about safety or crime	--	--	--	--	--	--	--	1.00	0.13 2.05	--	0.15 1.83	--	
Increase in housing costs	--	--	--	--	--	--	--	--	1.00	0.45 6.41	0.14 1.73	-0.21 -2.84	
Change in income or finances	--	--	--	--	--	--	--	--	--	1.00	--	--	
Friends leaving	--	--	--	--	--	--	--	--	--	--	1.00	--	
Threat of being forced to move out	--	--	--	--	--	--	--	--	--	--	--	1.00	

4.1 Main Estimation Results

The main estimation results are presented in Table 3. The first three rows in the table provide the overall constant effects and shift effects for the 2021 and 2023 periods. These variables are estimated for all outcomes regardless of their statistical significance simply to match the proportions of individuals selecting each outcome in each period. Thus, they do not have any substantial interpretations except that, after accounting for other exogenous variable effects, they suggest an overall shift toward increased residential mobility in the 2021 period (relative to the 2019 period; the constant value is $-0.36 + 0.10 = -0.26$ in 2021 relative to -0.36 in 2019) with motivations becoming more based on improving access to work locations, space in the home, and responding to changes in income or finances. Residential mobility, overall, is the least in the 2023 period (the constant value for this period is $-0.36 + 0.10 - 0.44 = -0.70$), with motivations (relative to the earlier periods) shifting more toward changing household composition and the movement of friends and family members. The results of the remaining exogenous variables and interactions between exogenous variables and the 2021 and 2023 indicators are discussed selectively in the remainder of this section, focusing on the changes in moving motivations over time.

Lifecycle and Household Composition Effects

Households comprised of middle-aged adults (aged 45-64), older adults (aged 65+), and extended/multigenerational families, compared with younger households (aged 18-44), all exhibit a lower propensity for moving overall. This result aligns with well documented findings suggesting that households at later life stages tend to have more well-established and stable lifestyle preferences and routines, more location-based social capital (such as social and professional networks and familiarity with local services), and are more likely to own their homes, leading to lower rates of residential mobility (Fischer and Malmberg, 2001; Falkingham et al., 2016; Artamonova et al., 2020; Wang and Durst, 2023). This lower residential mobility grew even stronger for older adults during the 2021 period relative to the 2019 period, possibly because mobility reductions due to the COVID-19 pandemic impacted these adults more strongly than for other individuals (see Gaertner et al., 2021). But, the age-related gaps in residential mobility narrowed again, back to almost the 2019 period levels, in the 2023 period, with younger adults moving less frequently than they had previously (note that the net negative effect on the propensity for a residential move in the 2023 period for older adult households, relative to households with adults in the young lifecycle stage, is $-0.90 - 0.25 + 0.31 = -0.83$). Regarding the reasons for relocation among households at different lifecycle stages (see the main column heading labeled “Reason for Considering a Move” in Table 3), younger families are more likely than those at other lifecycle stages to consider relocating because of a desire to “upgrade or buy a home,” a “change in who you live with,” or a “need for more space.” These results are intuitive as younger families are less likely to have settled into a long-term lifestyle and more likely to experience life events such as job changes or changes in household composition (Falkingham et al., 2016). Many of these reasons for considering moving were moderated in the 2021 period, suggesting that these younger households were experiencing increased difficulties in making proactive moves to improve their housing options during this time. Further, in the 2019 period, older families and extended families were more likely than those in earlier life stages to consider moving due to a “change in income or finances,” likely relating to retirement decisions for these families (see Kim and Waldorf, 2021; Eriksson et al., 2022). A significant reduction in this effect in the 2021 period may be due to greater employment stability among older individuals compared to younger individuals and increasing retirement age after the onset of the pandemic and changes to pension systems, as well as greater

work location changes made by younger individuals after the onset of the COVID-19 pandemic (Munnell and Chen, 2021; Bassoli et al., 2023). Finally, older families seem more stable than others in terms of being less likely to consider moving because of increased housing costs or because of a threat of being forced to move, again a result likely related to the greater stability of individuals at later life stages.

The results also suggest that the number of adults in the household by gender plays an important role in relocation patterns. Compared with households with two or more adults, single female adult households exhibit higher residential mobility, while single male adult households have a lower baseline propensity to move but greater responsiveness to changing conditions (as evidenced by increased overall residential mobility in the 2021 period before reverting toward the baseline in the 2023 period). Further, in terms of relocation motivations, single adult households, regardless of gender (and relative to households with more than one adult), appear to be primarily driven by a “change in income or finances,” or disruptions in the social network (that is, “friends leaving”), though the “change in income or finances” reason is tempered substantially in the 2023 period. Also, single adult households regardless of gender, are less influenced by a desire to “upgrade or buy a home,” or “need for more space,” and single male adult households in particular are more likely to consider moving to households with less space (although even this effect has fluctuated over time). Single male adult households also seem less affected by safety concerns, although both single male and single female adult households seem more inclined, relative to larger families, to move in response to safety concerns starting in the 2021 period. These results highlight the greater flexibility that single individuals have in the housing market to respond to changing conditions and preferences.

The effect of the presence of children indicates that households with very young children (0-4 years old) exhibit higher residential mobility than those with older children, while those with older children exhibit a lower residential mobility than households with no children at all. This finding is consistent with existing results suggesting that households with (or who are expecting) younger children have an increased likelihood of moving in response to changing housing needs, while those with older children (5 years or older) endeavor to move less often to provide stability as children grow up (Mulder and Hooimeijer, 1999; Haartsen and Stockdale, 2018). Relocation motivations among households with children, in general, are driven by (a) opportunities to upgrade to a better home (particularly when there are children in the 0-4 years age bracket, though this effect is substantially tempered in the 2023 period), (b) higher space needs, (c) safety concerns (for households with children in the 0-4 years age group), and (d) the threat of being forced to move, aligning with the notion that these families undertake proactive processes to align their housing situation with child-related needs. The last result is also consistent with existing findings showing that the presence of children is a risk factor for eviction, a significant cause for concern among vulnerable families in the housing market (see Desmond et al., 2013). In contrast, relative to households with no children, those with children appear to be less affected by an “increase in housing costs” (except for the case of households with children in the 0-4 years age group and only for the 2019 period), and are less likely to consider moving for reasons related to better work access (for households with children less than 11 years old), a desire for less space, and, among households with children five years or older, a desire for better access to amenities, all aligning with a motivation to maintain stability for children.

Employment-Related and Education Effects

Households composed of at least one employed adult, according to our results, moved at similar rates to those without employed adults during the 2019 and 2021 periods, although households with employed adults moved more than households without employed adults in the 2023 period. The relatively increased propensity to relocate among households with employed adults in the 2023 period may be due to realignment with employment changes and remote work in the aftermath of the pandemic as well as in response to increases in the employment rate and wage increases during this period (including ongoing minimum wage increases; see Somashekhar et al., 2022; United States Department of Labor, 2025) that may have provided more opportunities for relocation among households with employed adults. Further, and not surprisingly, households in which at least one adult has experienced a job change within the past five years from the date of each survey (simply labeled as “job change in past five years” in Table 3 and beyond) exhibit higher residential mobility, a trend that has grown in the 2023 period. The motivations for moving also differ significantly based on employment status. Predictably, “better access to work” considerations played an important role in motivating relocation among employed individuals. This effect reversed during the 2021-period (with the relocation propensity among households with employed individuals actually being a shade less than the relocation propensity among households with non-employed individuals), likely due to the reduced commuting importance among teleworkers and the ability to stay put during a period of economic hardship, before rebounding in the 2023-period as many individuals returned to in-period work routines or settled more firmly into long-term remote or hybrid work arrangements. Households with employed individuals are also more likely to consider moving due to a desire to access recreation, restaurants, shops, or other amenities, suggesting that these households have more freedom to align their housing with such preferences. In contrast, households with employed individuals are less likely to cite “change in income or finances” as a reason to move, while households with adults holding multiple jobs or households with adults experiencing recent job changes tend to cite this reason more often. This is presumably because stable employment provides income security that reduces financially motivated moves, while those with multiple jobs or recent job changes may face more financial precarity and economic volatility associated with employment transitions and multiple part-time work arrangements, motivating more consideration of relocations (Ghasri et al., 2023). Regarding social network effects, households with employed individuals exhibited a greater propensity to consider relocation because friends and family were leaving the area during the 2021-period, possibly reflecting pandemic-related social disruptions that were particularly pronounced for those relying on employment-related social networks (see Breetzke and Wild, 2022; Zou, 2022). This effect, however, reversed in the 2023 period, particularly among those with recent job changes, presumably because they may have developed new social connections and associated place-based attachments through employment transitions. Finally, households with employed individuals demonstrate lower susceptibility to safety-motivated moves and threat of forced relocations in the 2019 and 2021 periods, reflecting the greater economic security that employment provides. However, these effects either reversed (for safety concerns) or diminished (for the threat of forced relocations) in the 2023-period. The latter diminished effect is presumably an indication that even employed households are facing increased housing pressures in recent years, with the erosion of employment as a reliable buffer against housing insecurity.

Higher income households (those with annual income of \$100,000 or more) had a lower propensity for moving than lower income households (those with an annual income of less than \$100,000) in the 2019 and 2021 periods, though this income threshold for reduced moving

propensity moved up to \$200,000 in the 2023 period (note that the base coefficient of -0.16 for the \$100,000-\$199,999 income category is effectively annulled by the 2023 shift coefficient of 0.14 for the same income category). Overall, though, higher income households are better able to align their housing outcomes with their housing needs when they move and have higher overall housing satisfaction (Fallahi and Mehrad, 2015; Ong ViforJ et al., 2024), so are less likely to move at any time. In terms of considerations for a relocation, however, higher-income households are more likely than low-income households to be motivated to move by a desire to “upgrade or buy a home,” or because they need either more or less space. This points to the elevated ability of high-income households to continually seek to align their housing with their changing needs over time. Further, higher income households are less likely to consider relocating because of an increase in housing costs and a “change in income or finances,” though, again, such reduced consideration for moving effectively vanishes even at the highest income category of \$200,000 or more for housing cost in the 2023 period and applies only to households with annual incomes of \$200,000 or more for a “change in income or finances” in the 2023 period. These results indicate that higher-income households have increasingly been motivated by affordability concerns (either due to changing rent or changing income) in the 2023 period. This may in part be due to the rapidly rising housing costs in Seattle over the past several years, which have occurred throughout both high- and low-income neighborhoods (Washington Center for Real Estate Research, 2023). Additionally, as Seattle has a large share of high-income renters, changes to rent policies, including the expiry of state-level rent freezes in June 2021 and city-level eviction moratorium in February, 2022 may be contributing to this effect (Gonzalez, 2020; Kuderer et al., 2020; Divounguy, 2025). In contrast, higher income households are consistently less likely to consider relocation because of the threat of being forced to move out.

Regarding educational attainment, we find that households with high levels of educational attainment tend to have a lower propensity to move overall. In terms of relocation considerations, households with at least one graduate degree holder were motivated to consider relocation for better access to work and upgrade possibilities in the 2019 period, but these motivations faded in the 2021 period and beyond, likely a reflection of the uptake of telework during the pandemic era that persisted through the 2023 period. Households with at least one bachelor’s or graduate degree holder also appear to be motivated by a desire for more space and to have better access to amenities. These results, together, suggest that those with higher levels of educational attainment have greater economic stability that mitigates the effects of financial changes on relocations, but that they also have greater resources to pursue proactive planning processes leading to housing upgrades and career-related relocations (Frederick et al., 2014; Hur and Koh, 2023). Further, households with at least one bachelor’s or graduate degree holder were associated with an increased consideration of relocations due to household composition changes during the 2021-period. However, this effect all but vanished in the 2023 period. That is, there was effectively no difference between highly educated and other households in residential relocation consideration due to household composition changes in 2023, falling back to the situation that existed in 2019. This result is potentially reflecting educated households’ greater ability to adapt their living arrangements and make more significant household structure changes during the pandemic (Chesterman et al., 2021). Finally, relocations motivated by concerns of safety and crime were much less common among households with highly educated individuals in the 2019-period, but spiked in the 2021-period before returning to the baseline levels in the 2023-period. This increase during the 2021-period is likely due to a combination of factors including (1) changes to daily routines causing more highly-educated individuals to spend more time at home and in their neighborhood and making them more

aware of safety issues, (2) changes in patterns of violent crimes alongside changing utilization of public space that led to more victimization in public spaces, and (3) social disruptions related to widespread protests in 2020 that heightened public attention to safety issues (see Massenkoff and Chalfin, 2022; Zevnik, 2023).

Race and Ethnicity Effects

Our findings suggest significant differences in relocation patterns based on race and ethnicity. Asian households consistently exhibit higher residential mobility compared to other groups. Hispanic households also exhibited higher residential mobility during the 2019 period, but not beyond. In terms of relocation motivations, “better access to work” is a stronger consideration among Black and Asian households (compared with white households), although this consideration reduces substantially for Black households in the 2021 period and beyond. Black and Hispanic households also are less likely to consider moving to improve access to amenities. Affordability concerns have evolved differently for different racial and ethnic groups. Asian households (relative to households of other races) were the most likely to consider an “increase in housing costs” in their stay/relocate decisions during the 2019 period, but the least likely to do so in the 2021 period, and again became more likely (but not to the extent of the 2019 period) to do so in the 2023 period. In contrast, Hispanic households became relatively more likely to consider moving for affordability reasons during the 2021-period and beyond, potentially reflecting greater economic vulnerability during the pandemic and after. Asian households also have a lower propensity to consider moving due to relocations of friends and family in the 2019 and 2021 periods, but this situation gets reversed in the 2023 period, with Asian households having a higher propensity (relative to other households) to consider moving due to relocations of friends and family in the 2023 period. This effect may reflect the rapid growth of the Asian population in the greater Seattle region over the previous several years (see the increase in the Asian population exhibited in the ACS data for the region in Table 1), leading Asian households to relocate to expanding Asian-community neighborhoods and take advantage of this growing social capital when considering relocations. This trend also highlights how structural conditions result from the aggregation of individual-level decisions, as the decisions of some movers influence the social and economic landscape within which others are making decisions. Finally, Black and Hispanic households (more so than white and Asian households) cite the threat of being forced to move out as a consideration for relocation, presumably reflecting broader patterns of housing discrimination and economic vulnerability among Black and Hispanic households (Desmond, 2022; Versey and Russell, 2023).

4.2 Correlations

The correlation parameters estimated in the model are shown in the final section of Table 3. A large number of these correlation terms are found to be statistically significant and retained in the model. Two of these are between the overall decision to move in the two years prior to the survey and the motivating reasons for relocation. Specifically, overall relocations are negatively correlated with motivations for improving access to work locations and strongly positively correlated with being forced to move. The high and very statistically significant correlation with forced relocations, in particular, is unsurprising, as discussed earlier in Section 2.2. The additional correlations among the reasons for relocation suggest that many of these concerns play a role at once in the decision of whether or not to relocate. For instance, the strong positive correlation of 0.45 (t-statistic of 6.41) between motivations to consider moving due to an “increase in housing

costs” and “change in income or finances” suggests a snowballing effect of these two reasons on relocation choices, providing further reinforcement for our use of structuration theory, as discussed in Section 1.

4.3 Model Fit

We evaluate the performance of the proposed joint model with an independent model that does not consider the correlations between the outcomes. The independent model specification considers all outcome dimensions independently, ignoring the correlations terms discussed in the previous section (and shown at the bottom section of Table 3). A variety of disaggregate and aggregate fit metrics are employed to compare the performance of the two models, as shown in Table 4. At a disaggregate level, the log-likelihood at convergence as well as adjusted likelihood ratio index calculated in comparison to both the constants only log-likelihood and the equal-probability log-likelihood are all larger for the proposed model, supporting the superior fit of this model. Additionally, the proposed model has a smaller Bayesian information criterion than the independent model, suggesting that the proposed model has a better fit after accounting for the number of parameters. Finally, at this disaggregate level, the two models are compared using a formal likelihood ratio test, which is found to be significant at any reasonable level of significance for a chi-square value with 35 degrees of freedom. At an aggregate level, the two models can also be compared based on the predicted share of individuals selecting any combination of the binary relocation decision and motivating reasons (there are a total of $2^{11}=2048$ combinations of reasons for those who actually relocated, and just one combination of not moving for those who did not move). Since it would be too tedious to report the performance of each model in terms of aggregate fit across each of the 2048 combinations for those who relocated, for the purposes of this paper, we consider a positive binary relocation decision along with the top ten paired combinations of motivating reasons with the highest number of sample observations. Thus, as shown in the lower section of Table 4, we calculate the number of individuals in the sample who do move within two years of the survey and select each of the top ten paired reasons for moving (ignoring the responses provided to other reasons). Then, using each model, we predict the share of individuals selecting each of the top ten paired outcome combinations and calculate the absolute percentage error (APE) between the predicted and the observed shares in the sample. Finally, we weight the outcome-specific APEs by the observed shares of each outcome to get the weighted average percentage error (WAPE). This is provided in the last row of Table 4. Our proposed model clearly outperforms the independent model based on both disaggregate and aggregate fit statistics.

Table 4: Model Fit

Disaggregate Measures								
Metric				Proposed Model		Independent Model		
Log-Likelihood at Convergence				-11359.76		-11858.97		
Log-Likelihood at Constants				-12682.11				
Log-Likelihood at Zero				-20440.22				
Number of Parameters				267		232		
Adjusted Likelihood Ratio Index (relative to constants-only model)				0.084		0.048		
Adjusted Likelihood Ratio Index (relative to equal-probability model)				0.432		0.409		
Bayesian Information Criterion				11890.20		12319.87		
Likelihood Ratio Test				998.41				
Aggregate Measures								
Outcome Combinations			Observed		Proposed Model		Independent Model	
Move Within Two Years <u>and</u> Select Paired Motivations:			Count	Share (%)	Share (%)	APE	Share (%)	APE
Upgrade or buy a home	Need for more space		316	3.36	3.29	2.12	2.55	24.02
Change in who you live with	Need for more space		166	1.77	1.88	6.31	2.08	17.67
Need for more space	Change in income or finances		128	1.36	1.06	21.96	0.95	29.96
Change in who you live with	Change in income or finances		117	1.24	1.12	9.90	1.17	6.16
Need for more space	Increase in housing costs		116	1.23	1.22	1.01	1.23	0.07
Need for more space	Concerns about safety or crime		115	1.22	1.25	2.40	0.98	19.71
Upgrade or buy a home	Change in who you live with		108	1.15	1.31	14.38	1.41	22.70
Upgrade or buy a home	Concerns about safety or crime		101	1.07	1.10	2.01	0.96	10.28
Increase in housing costs	Friends leaving		98	1.04	0.93	10.48	0.82	21.77
Upgrade or buy a home	Increase in housing costs		80	0.85	0.94	10.14	1.03	21.41
Weighted Average Percent Error (WAPE)					7.19		18.36	

5. EVOLUTION IN RELOCATION MOTIVATIONS OVER TIME

The descriptive statistics in Table 1 provide an aggregate sense of the patterns of residential moves and relocation motivations through time. However, these aggregate statistics do not provide the temporal evolution patterns by specific population subgroups. To do so, we use the average treatment effect (ATE) by first setting all individuals in the dataset to have a specified value for one exogenous variable and to a baseline 2019 state (that is we set the value of both the 2021-effect and 2023-effect indicators to zero). Then, we use the estimated coefficients to obtain the probability that each individual would relocate or select each reason for considering relocating. The share of individuals relocating and being motivated by each reason is then simply the average of these probabilities across all individuals. We then repeat the procedure by setting all individuals to the 2021 state (setting the value of the 2021-effect indicator to one and the 2023-effect indicator to zero). The percent change in these shares between the 2019 period and 2021 period is presented in Table 5 with each row corresponding to a single exogenous variable and each column to an outcome (note that the motivating reason for “better access to amenities” is excluded, as this option was only provided in the 2023 wave). For instance, the value of “0.8” in the first numeric row and first numeric column of Table 5 indicates that young adult households were 0.8% more likely to relocate during the 2021-period than during the 2019-period and the value of “-31.1” in the

following column indicates that young adults were 31.1% less likely to consider moving based on an interest in getting better access to work during the 2021-period than during the 2019-period. Finally, the same procedure is repeated to determine the change in residential mobility and motivations for relocation between the 2021 period and 2023 period, and the results for this second set of ATEs are presented in Table 6.

In both Tables 5 and 6, we provide the predicted residential move changes by population subgroups in the first column of Tables 5 and 6, followed by the residential relocation motivations in the subsequent columns. In the following presentation, we focus on the latter ATEs corresponding to the relocation motivations rather than the ATEs corresponding to actual moves themselves to project forward into what may be the housing landscape in the future.

5.1 Relocation Motivation Changes Associated with Proactive Planning Processes

Table 5 shows that, relative to the 2019 period, there is a notable reduction in the 2021 period across most population subgroups in the three motivations corresponding to proactive planning processes. This reduction is particularly notable for “better access to work,” with the reduced share being especially higher among households with children aged 0-11 years, low-income households (less than an annual income of \$50,000), Black or other households, and households with one or more graduate degree holders. The implications of this change in terms of urban planning and travel demand modeling are significant, as traditional approaches to residential location choice modeling have focused on commute distance as a primary determinant of these decisions. The rapid changes to working conditions during the 2021 period highlight that housing may no longer be as closely bound to employment accessibility, as the embrace of remote work removes some spatial constraints on housing choices. Instead, models of residential relocation and residential location choices will need to more carefully consider household composition and race/ethnicity factors, as well as neighborhood and dwelling unit characteristics, that may play a greater role in housing decisions (see Robbennolt et al., 2024b). Although there has been some increase in consideration of relocation due to interest in better access to work in the 2023 period relative to the 2021 period (see Table 6), this particular reason for considering relocation has not rebounded to the 2019 level and interest in moving to access work locations has actually continued to decrease for some, such as among those with moderately high incomes (\$100,000-\$199,999). Further, these changes to housing preferences will have downstream effects on transportation outcomes, leading to changing commute patterns as some families choose to live farther from their workplaces and commute less frequently. At the same time, if these families choose neighborhoods based more on lifestyle preferences than workplace location, there may be an increase in shorter off-peak trips for non-work purposes.

Another notable change in terms of these longer-term planning processes is that the consideration of moves for upgrading or buying homes has declined in the 2021 period relative to the 2019 period across all household lifecycle/composition, employment/education, and race/ethnicity variables, except for households with older adults, extended families, and those with low formal education. This decline has not recovered in the 2023 period. In fact, among Asian households and those with younger children (aged 0-4), interest in upgrading or buying a home declined further during the 2023 period. This finding suggests a slowdown in upward residential mobility, particularly among younger families and those with children. As noted previously, Seattle has experienced increasing housing costs over the last several years and has a larger renting population than most large American cities (Washington Center for Real Estate Research, 2023), constraining many families to the rental market. These growing barriers to homeownership, while

potentially beneficial in some ways, can also limit social mobility. At the same time, as these needs are not met, and particularly in the context of a concurrent reduction in the need to be located near employment, planners and real-estate developers should consider ways to upgrade existing housing stock without displacing existing residents. Younger families, in particular, may be interested in housing improvements and neighborhood revitalization projects in their current homes and communities if they do not see relocation as a viable option for housing improvements.

5.2 Relocation Motivation Changes Associated with Disconnects Between Preferences and Housing

The growing desire for space at home during the 2021 period, relative to the 2019 period, across all population subgroups represents a similar reaction to stay-at-home orders during the COVID-19 pandemic and the growth of remote work discussed in the previous section. The growth of virtual activities that may be undertaken at home means that attributes such as physical space in the dwelling unit may be playing a larger role in relocation decisions than traditional location-related factors such as commute distance. Although this shift to relocation considerations driven by desire for more space at home reversed somewhat in the 2023 period relative to the 2021 period for all subgroups except extended families (see Table 6), it again did not revert fully to the baseline levels in the 2019 period, suggesting that these changing motivations may be here to stay. Such changing motivations have profound implications for real estate markets, as properties with dedicated workspace, outdoor access, and flexible layouts may continue to grow in popularity, even for those who still desire physical accessibility and urban living (see also, Wang et al., 2025). Also not surprisingly, this trend was stronger for older adults, with households comprised of adults aged 65 years old or older being 133.0% more likely to consider relocating due to a desire for more space in the 2021 period compared with the 2019 period (see Table 5). And, in the reverse direction, these older adult households were 187.9% more likely to move due to a desire for less space in their home in the 2023 period compared with the 2021 period (see Table 6). The initial preference for space highlights that older adults were more susceptible to being confined at home for longer periods during the pandemic, leading to a heightened preference for space and support for home-based activities during the pandemic. But, the reversal of these trends highlights that this may have occurred more as a temporary response to pandemic conditions rather than a longer-term change, as the heightened propensity to move to homes with less space in the 2023 period, suggests that these individuals may have eventually followed through on long-term plans to move after the effects of the pandemic subsided. These findings also highlight how these individuals navigate the housing market to adapt their own longer-term plans based on evolving external conditions and their own changing needs, another affirmation of structuration theory at play.

Relocations made in response to safety concerns have varied significantly across demographic groups and over time, generally increasing in the 2021 period compared with the 2019 period before declining in the 2023 period. Notably, the increase in safety-related concerns was much stronger for Black families during the 2021 period, a 149.3% increase from the 2019 period, and has not subsided nearly to the same extent during the 2023 period. The implications of relocation considerations related to safety concerns are significant, as they can weaken social networks and community cohesion and lead to disinvestment in neighborhoods that are considered more dangerous, contributing to further declines in public services and additional reductions in safety, structurally impacting these neighborhoods in a cyclical fashion. This finding highlights important ongoing concerns for minority families and suggests that directed interventions, such as enhanced policing accountability, community violence prevention, and investment in public

infrastructure in historically marginalized neighborhoods (Velasquez et al., 2022; Roberts, 2024), are needed to address ongoing safety concerns. Additionally, given the cyclical nature of these safety concerns, as they are reinforced by individual relocation decisions and perceptions, community-led initiatives to reduce displacement and fair housing enforcement programs may also help (Saleheen and Barela, 2025).

5.3 Relocation Motivation Changes Associated with Triggered Reevaluations

Relocation motivations triggered by changes in income or finances and friends and family leaving the area, with some exceptions, increased during the 2021 period relative to the 2019 period, revealing the effects of economic disruption on residential stability. As mentioned previously, these types of moves are less voluntary and more rapidly undertaken than proactively planned relocations, possibly leading to greater misalignment between housing preferences and housing outcomes, including in terms of location preferences. In contrast, a decline in move consideration due to increasing housing costs across almost all population subgroups during the same period suggests that rent stabilization measures implemented during the pandemic were effective in providing short-term relief, particularly among families with children (families with children aged 5-17 were 37.4% less likely to consider moving due to an increase in housing costs in the 2021 period compared with the 2019 period, while those with younger children aged 0-4 were 60.3% less likely to consider moving due to an increase in housing costs over the same period). However, a reversal of this trend in the 2023 period in general (see Table 6) suggests that these targeted, short-term, measures put in place during the pandemic only provided temporary relief, leading to a surge in move consideration due to affordability pressures as rent protections subsided. This finding suggests an ongoing need to consider alternative measures to combat housing affordability, as these measures adopted during the pandemic do not appear to have contributed to significant long-term reductions in housing affordability concerns, even if they did provide valuable relief to many families in the short term.

One notable exception to triggered relocation motivations during the 2023 period occurred for Asian families. These families began to consider triggered relocations much more often during the 2023 period than they had previously, an increase of more than 100% compared to the 2021 period in all three categories of triggered reevaluation motivations. As mentioned previously, these results may be due in part to the large growth of the Asian population in the Seattle region during this time period, emphasizing the impacts of rapid neighborhood transformation that has occurred due to the growth of the Asian population. This rapid growth may have led to increased risk of displacement in many neighborhoods as increasing demand caused increases in housing prices. The particularly increasing interest in relocation due to the moves of friends and family may also point to the need for more robust social and community organizations directed toward Asian communities to strengthen local social networks, provide social support and economic opportunities, and reduce this type of housing instability.

5.4 Relocation Motivation Changes Associated with Threat of Forced Relocations

The decline across all population subgroups and across both periods (the 2021 period relative to the 2019 period as well as the 2023 period relative to the 2021 period) in the threat of forced relocations is a positive result, suggesting that eviction moratoriums and other pandemic-era housing protections were successful in reducing the most severe forms of involuntary displacement. This finding has important implications given the broad impacts of the threat of forced relocations on socioeconomic and health outcomes (see also, Desmond et al., 2015; Bhat et

al., 2022; Ali and Wehby, 2022; Bhat et al., 2025). For instance, the increased housing stability provided by the reduction in evictions may allow households to stay in communities where they have strong social connections and access to employment, as well as allowing them time to proactively plan future relocations (Evans, 2020). At the same time, while this change has occurred relatively uniformly across demographic groups, significant disparities remain in terms of which families are more likely to perceive a threat of forced relocations. For instance, during the 2019 period, Black families were 25.6% more likely to perceive the threat of forced relocation than white families, while families with incomes under \$50,000 were 24.4% more likely to perceive such threats relative to families with incomes of \$200,000 or more (these treatment effects showing the difference between demographic groups in 2019 are not shown in Table 5 or Table 6, but may be calculated similarly). Importantly, these differences in threat perceptions among racial and income groups have not abated in any significant manner over time, as may be observed by the inter-period ATEs in Tables 5 and 6. These findings suggest that even as the overall threat of forced relocations falls, structural barriers remain that limit the upward mobility of Black and low-income families. Thus, strategies such as an increasing focus on robust eviction protection measures, particularly for underreported informal evictions, anti-displacement strategies, and engagement between social services and impacted communities are needed to help reduce disparities and structural barriers in the housing market.

Table 5: Percent Change in Moving Motivations Between the 2019-Period and the 2021-Period

Variable		Levels	Move Within Two Years	Reason for Considering a Move									
				Proactive Planning			Disconnects Between Preferences and Housing			Triggered Reevaluations			Forced Relocations
				Better access to work	Upgrade or buy a home	Change in who you live with	Need for more space	Need for less space	Concerns about safety or crime	Increase in housing costs	Change in income or finances	Friends leaving	Threat of being forced to move out
Lifecycle and Household Composition Variables													
Lifecycle	Young (adults 18-44)	0.8	-31.1	-24.4	-19.5	26.5	-14.4	22.3	-10.8	162.4	153.0	-0.6	
	Middle-aged (adults 45-64)	-7.8	-31.1	-31.2	-19.4	27.5	-14.4	22.3	-10.8	162.4	153.0	-0.6	
	Older (adults 65+)	-49.3	-31.1	38.2	-18.7	133.0	-49.8	22.3	-13.8	-40.8	49.7	-3.6	
	Extended/multigenerational	-3.2	-31.1	13.1	-12.3	27.6	-14.4	22.3	-10.8	-49.3	-68.7	-0.6	
Household Composition	2+ adults	-10.8	-31.1	-14.4	-18.6	36.7	-14.7	4.8	-12.3	18.1	31.1	-1.2	
	Single male adult	21.6	-31.1	-17.4	-18.6	32.6	-55.5	78.7	-12.3	5.4	23.5	-1.2	
	Single female adult	-9.7	-31.1	-19.0	-18.6	35.1	-14.7	43.3	-12.3	6.6	22.3	-1.2	
Presence of Children	No Children	-1.8	-29.7	-16.1	-16.4	42.3	-18.8	22.4	4.0	18.0	29.7	-4.6	
	Children aged 0-4	-1.1	-43.1	-9.9	-28.4	39.5	-16.2	18.0	-60.3	18.0	29.7	-1.0	
	Children aged 5-11	-4.0	-46.3	-16.1	-25.1	3.4	-16.2	22.4	-37.4	18.0	29.7	-1.0	
	Children aged 12-17	-4.0	-29.7	-16.1	-19.7	42.3	-16.2	22.4	-37.4	18.0	29.7	-1.0	
Employment-Related and Education Variables													
Employment	No Employed Adults	-3.8	70.0	-15.4	-18.6	38.1	-52.5	20.0	-12.3	78.8	-39.8	-5.3	
	Presence of employed adult	-5.7	-44.8	-15.4	-18.5	34.8	29.4	25.4	-12.3	-3.7	70.2	-0.4	
	Adult with more than one job	-20.1	-38.7	-15.4	-18.5	13.0	29.4	25.4	-12.3	-8.4	70.2	-0.4	
	Job change in past five years	-5.3	-27.0	-15.4	-19.6	34.8	-28.0	22.3	-12.3	12.3	29.7	-1.2	
	No Job change in past five years	-6.1	-33.2	-15.4	-17.9	34.8	-28.0	22.3	-12.3	21.4	29.7	-1.2	
Household Income	Less than \$50,000	-5.2	-69.9	-24.3	-17.0	34.9	-37.3	22.3	-0.9	8.6	29.7	-0.3	
	\$50,000-\$99,999	-5.2	-14.2	-17.3	-21.6	35.9	-28.8	22.3	-36.2	19.8	29.7	-13.3	
	\$100,000-\$199,999	-6.5	-5.2	-11.0	-18.0	36.0	-28.8	22.3	-2.8	37.8	29.7	-0.2	
	\$200 or more	-6.9	-21.8	-6.6	-18.0	35.8	-19.9	22.3	-2.8	86.2	29.7	-0.2	
Educational Attainment	Less than bachelor's degree	-5.0	-18.0	2.7	-20.4	19.4	-28.0	-28.4	-12.3	14.3	29.7	-1.2	
	Bachelor's degree	-5.8	-18.0	-19.5	-17.8	20.8	-28.0	46.4	-12.3	14.3	29.7	-1.2	
	Graduate degree	-6.2	-46.8	-18.2	-17.8	20.8	-28.0	72.6	-12.3	28.7	29.7	-1.2	
Race and Ethnicity Variables													
Race	White	-5.8	-30.4	-15.4	-17.7	34.9	-28.0	-0.5	-3.8	18.0	29.5	-1.4	
	Asian	-5.1	-24.5	-15.4	-23.9	34.7	-28.0	-0.5	-56.7	18.0	58.5	-0.6	
	Black or Other	-5.8	-56.2	-15.4	-18.0	34.9	-28.0	149.3	-3.8	18.0	29.5	-5.3	
Ethnicity	Not Hispanic	-2.3	-31.1	-13.3	-18.6	35.0	-28.0	23.0	-18.2	19.5	29.7	-2.7	
	Hispanic	-24.6	-31.1	-30.1	-18.6	34.9	-28.0	31.3	29.1	11.0	29.7	-1.0	

Table 6: Percent Change in Moving Motivations Between the 2021-Period and the 2023-Period

Variable		Levels	Move Within Two Years	Reason for Considering a Move									
				Proactive Planning			Disconnects Between Preferences and Housing			Triggered Reevaluations			Forced Relocations
				Better access to work	Upgrade or buy a home	Change in who you live with	Need for more space	Need for less space	Concerns about safety or crime	Increase in housing costs	Change in income or finances	Friends leaving	Threat of being forced to move out
Lifecycle and Household Composition Variables													
Lifecycle	Young (adults 18-44)	-21.7	11.4	3.1	26.8	-16.5	-34.7	-25.7	49.3	-8.4	9.2	-34.4	
	Middle-aged (adults 45-64)	-0.7	11.4	4.6	15.5	-19.7	187.9	-25.7	-21.9	-8.4	9.2	-34.4	
	Older (adults 65+)	54.6	11.4	4.4	21.6	-19.9	58.6	-25.7	67.9	-8.4	-82.1	-38.2	
	Extended/multigenerational	-9.1	11.4	3.3	26.7	7.2	-34.7	-25.7	49.3	-8.3	19.8	-34.4	
Household Composition	2+ adults	-7.4	11.4	3.2	23.3	-13.7	10.8	-25.8	35.0	30.9	-34.7	-34.1	
	Single male adult	-28.1	11.4	3.6	23.3	-16.8	108.8	-26.2	35.0	-47.5	-33.5	-34.1	
	Single female adult	-7.7	11.4	3.9	23.3	-16.2	10.8	-24.0	35.0	-19.9	-33.1	-34.1	
Presence of Children	No Children	-11.5	9.9	6.6	25.5	-14.4	28.5	-26.4	33.8	-8.5	-32.5	-35.1	
	Children aged 0-4	-11.4	27.0	-19.9	11.3	-12.1	16.8	-23.1	47.4	-8.5	-32.5	-31.2	
	Children aged 5-11	-10.9	32.5	6.6	16.7	-13.9	16.8	-26.4	46.4	-8.5	-32.5	-31.2	
	Children aged 12-17	-10.9	9.9	6.6	23.1	-14.4	16.8	-26.4	46.4	-8.5	-32.5	-31.2	
Employment-Related and Education Variables													
Employment	No Employed Adults	-24.6	-45.2	3.3	22.5	-13.9	29.4	-61.0	35.0	42.4	121.1	-43.7	
	Presence of employed adult	-8.9	33.9	3.3	23.3	-13.9	32.6	-7.2	35.0	-27.6	-58.6	-31.4	
	Adult with more than one job	-8.9	24.9	3.3	23.3	-13.6	32.6	-7.2	35.0	-28.3	-58.6	-31.4	
	Job change in past five years	-3.1	31.9	3.3	23.3	-13.9	33.3	-25.7	35.0	-8.4	-70.5	-34.1	
	No Job change in past five years	-18.6	-6.2	3.3	23.2	-13.9	33.3	-25.7	35.0	-6.5	-13.6	-34.1	
Household Income	Less than \$50,000	-15.8	152.1	5.8	16.7	-15.0	68.9	-25.7	-15.3	-34.4	-32.5	-25.8	
	\$50,000-\$99,999	-15.8	16.3	3.9	30.6	-14.2	51.3	-25.7	75.6	30.5	-32.5	-32.7	
	\$100,000-\$199,999	1.4	-48.0	2.8	23.5	-13.7	51.3	-25.7	84.8	48.6	-32.5	-39.2	
	\$200 or more	-16.0	27.8	2.3	20.0	-13.2	-44.3	-25.7	53.1	-21.9	-32.5	-43.1	
Educational Attainment	Less than bachelor's degree	-11.3	10.7	3.6	26.4	-14.7	33.3	26.4	35.0	-7.7	-32.5	-34.1	
	Bachelor's degree	-11.4	10.7	3.3	21.8	-13.7	33.3	-49.8	35.0	-7.7	-32.5	-34.1	
	Graduate degree	-11.3	12.5	3.2	21.8	-13.7	33.3	-31.3	35.0	-4.6	-32.5	-34.1	
Race and Ethnicity Variables													
Race	White	-11.6	12.2	6.7	20.0	-11.2	33.3	-26.9	27.6	-21.3	-42.1	-34.1	
	Asian	-11.5	6.6	-21.1	34.9	-30.9	33.3	-26.9	119.8	116.5	139.3	-36.9	
	Black or Other	-11.6	9.4	6.7	24.8	-11.2	33.3	-25.1	27.6	-21.3	-42.1	-30.1	
Ethnicity	Not Hispanic	-11.6	11.4	3.3	23.3	-14.1	33.3	-28.9	37.0	-8.0	-32.5	-34.4	
	Hispanic	-11.5	11.4	4.0	23.3	-13.0	33.3	14.6	27.1	-9.5	-32.5	-32.8	

6. CONCLUSIONS

Residential relocations occur due to a multitude of interrelated factors as families plan moves based on their life-course and adjust these plans over time in response to their own evolving needs and structural changes to the housing market. In this paper, we examine this process to determine how relocations are motivated differently among different subgroups of the population, as well as how these motivations have changed over time in response to evolving external conditions. We conceptualize this relocation process in terms of structuration theory to accommodate this duality between the pressures presented by social context in relation to individual preferences and agency in navigating the housing market, as well as the cyclical nature of this process as individuals make decisions to produce these same structural conditions themselves. The findings illustrate how individual relocation decisions, motivated by proactive planning processes, disconnects between housing preferences and housing outcomes, triggered reevaluations of housing situations, and threats of forced relocations, collectively shape urban landscapes. For instance, shifts in the nature of employment and remote work during the 2021 period have had broad implications for housing outcomes by reducing motivations related to aligning home and workplace locations, while increasing attention to space at home. These choices then influence neighborhood composition, housing market dynamics, and travel demand patterns, further influencing opportunities available to current and future movers. We find that relocations in the 2021 period were less commonly motivated by proactive planning processes or forced relocations than they had been previously, instead being motivated by triggered reevaluations in housing situations or changing housing preferences. Finally, the 2023 period saw a continued decline in perceived threats of forced relocations, but a reversal of many of the other trends. In particular, many families seemed motivated by a desire for less space in their home during the 2023 period compared with the 2021 period, while moves motivated by changes in income or finances or friends and family leaving the area declined.

There are several additional avenues for further research. First, while this paper considers intra-regional relocations in the Puget Sound region, we do not consider other geographic regions or longer distance inter-regional relocations. A study of inter-regional relocations and motivations would be particularly valuable because such longer distance moves differ significantly from shorter intra-regional moves and may be motivated by different considerations. Second, we consider the household as a unit, with motivational responses from a single household member to represent the preferences of the household. These reference individuals are likely to be aware of the motivations of other household members, but a consideration of how household members interact to make relocation decisions jointly and navigate their own differing motivations would be of interest. Finally, while there is evidence that the housing search process is dependent on the motivations for relocation (see Saini and Pandit, 2025), a more comprehensive assessment of the connections between the motivations for relocation, the nature of the housing search processes, and actual housing outcomes would provide further valuable insights for policy interventions.

ACKNOWLEDGMENTS

This research was partially supported by the U.S. Department of Transportation through the Center for Understanding Future Travel Behavior and Demand (TBD) (Grant No. 69A3552344815 and No. 69A3552348320). The authors are grateful to Lisa Macias for help in formatting this document.

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