

Residential Mobility and Preference Survey

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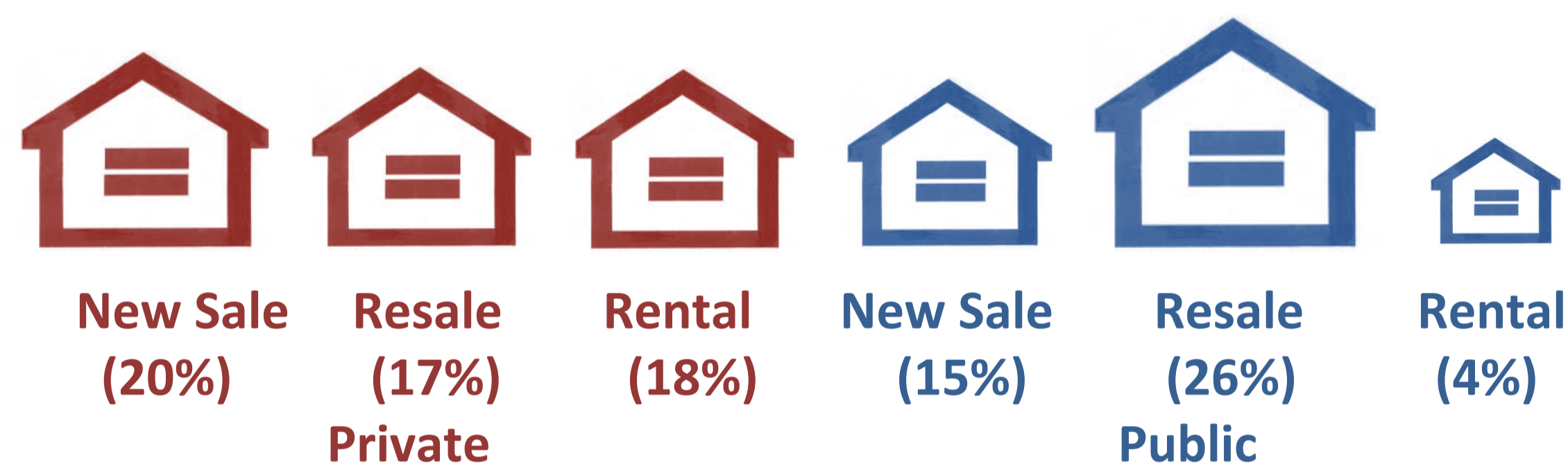
1. OBJECTIVES

The residential mobility and preference survey offers a comprehensive data collection framework for housing mobility studies, as well as for building integrated land-use and transportation models. The stated objectives for conducting the residential mobility and preference survey are to:

- understand housing purchase decision-making process of households in Singapore,
- identify key factors influencing households' choices of housing markets, housing locations, controlling for other factors, and
- collect data and feed behavioral models of analysis of the households' bidding process and moving decisions made under heavily regulated housing markets.

2. HOUSING MARKET SEGMENTS

Eligibility criteria for purchasing properties in the public housing market constrain household choice sets. For example, the public housing market is only open to Singaporean residents under certain household income thresholds. But the private market does not have any constraints on income, household structure, etc. To observe the housing market in Singapore, we consider six market transaction segments to categorize **housing flow** based on households' tenure choices and consumption level:



Between 1995 and 2005, approximately 50 percent of households in Singapore changed their housing units. Among each type of dwelling, 62 percent of households living in the 2-room flats shifted houses, and only 37 percent of households occupied in the landed houses changed their housing units.

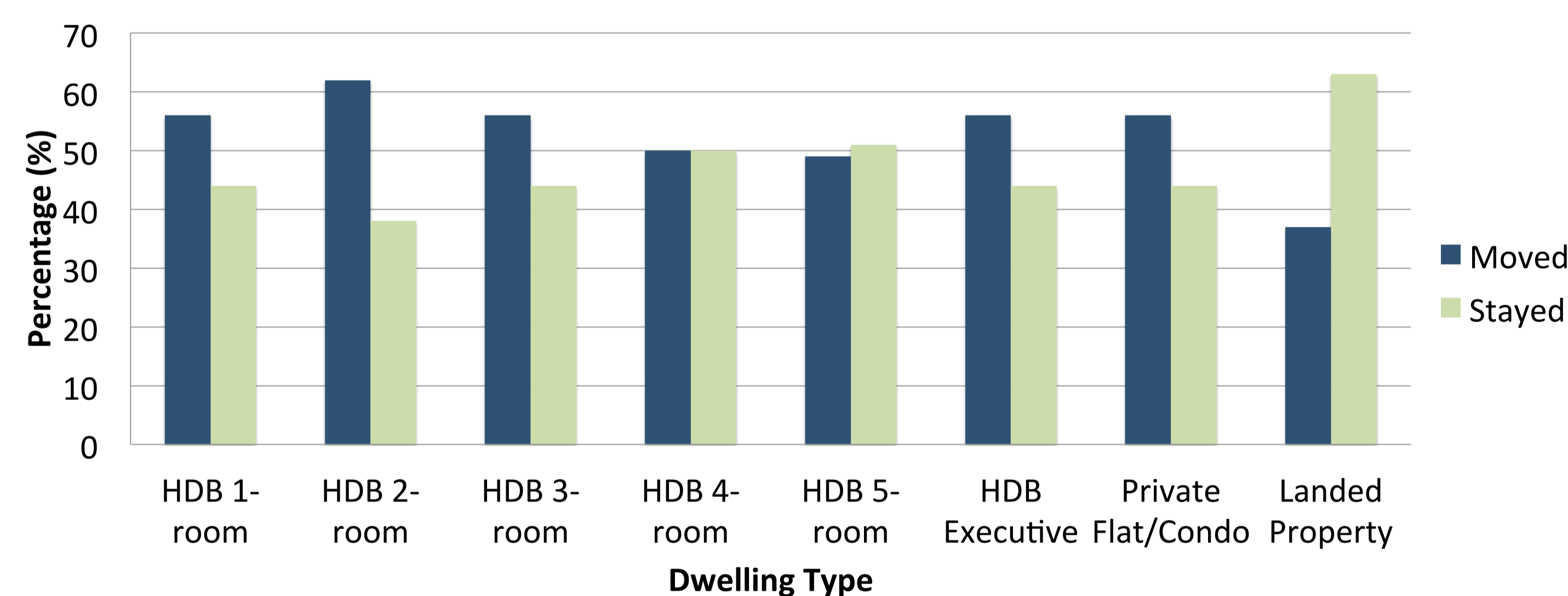


Figure 1. Percentage of Household Heads Residing in the Specified Dwelling Type during 2005 who have 'Moved' vs. 'Stayed' in the Same Residence During the Previous 10 Years

In summary, households residing in various types of dwelling units have shown different intentions and preferences of moving, especially for moving rate, location choice, tenure choice, etc. We are particularly interested in the following questions:

- How do households make tradeoffs across market segments?
- How do households make tradeoffs among features within each market segment, such as location (e.g. proximity to schools, workplaces, leisure destinations), area, floor, etc.?
- How is a household's residential preference influenced by its lifestyle and vice versa?
- How do households make tradeoffs if they treat housing and car ownership as a bundle? Whether these tradeoffs shift with the change of demographics and life cycle?
- What are the key features of the housing search process (time searching extensively, new versus resale tradeoffs, etc.)?

3. SURVEY DESIGN

❖ Survey Method—Retrospective Survey

Our survey asks households to recall their last housing purchase process and identify factors they took into consideration. Because there are no longitudinal studies conducted to observe households' moving behavior and track what "push" and "pull" reasons motivating households to move, a retrospective survey fits our research requirements (Hollingworth, 1996). The tradeoff we consider is between the length of reference period and sample size. On the one hand, tracking a moving event too far back will reduce the accuracy of the information respondents provide. On the other hand, allowing a very short reference period will cut down the sample size significantly due to the limited number of eligible individuals.

Reference

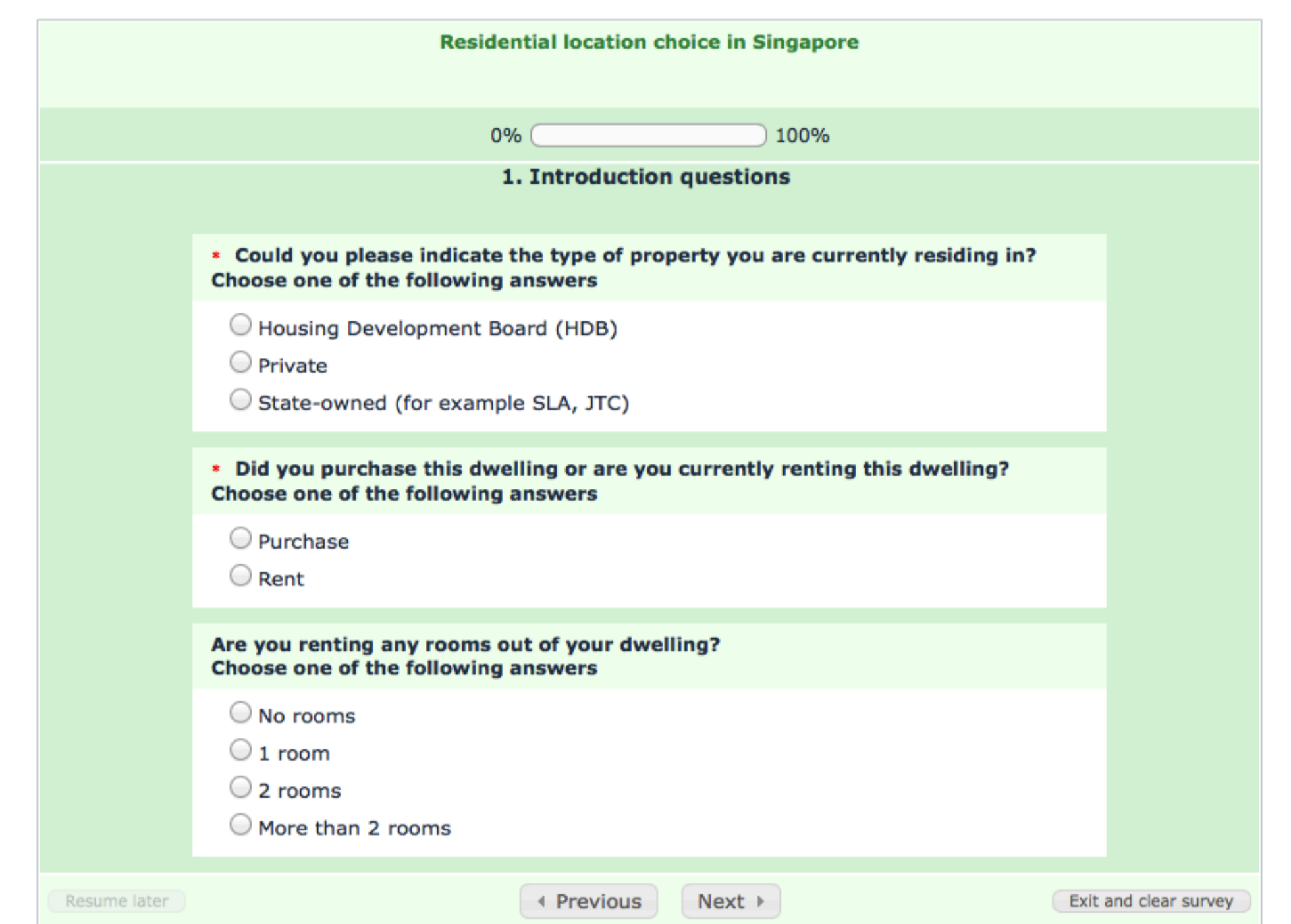
- Hollingworth, B.J. and E.J. Miller, 1996, Retrospective Interviewing and Its Application in Study of Residential Mobility, Transportation Research Record 1551: 74-81.

❖ Target Population

The target population includes those households who changed their housing locations in a 24-months period (e.g. Jan. 2012—Jan. 2014) in Singapore excluding people living in collective dwellings, including institutions (e.g. hospital, skilled nursing facility, workers' dormitory, school hostel/school staff quarters, other institutions), hotels, serviced apartments and other lodging houses (e.g. hotel, serviced apartment, other lodging houses), and other collective dwellings.

❖ Instrument Design

The planned Household Mobility Survey includes a questionnaire to collect information regarding households' general attributes, housing purchase decision-making process, moving history, individual household members socio-economic characteristics, and car ownership. We use an online survey platform—*LimeSurvey*—to conduct the survey.



❖ Sampling

Our sample design is aimed at drawing a sufficiently large sample while staying within budget. In practice, sample size and cost are strongly influenced by incidence rate. In our case, the incidence rate varies by type of market segments where the recent movers chose to participate. Therefore, we propose to use a mixed sampling strategy.

Market	Strategies
HDB New Sale	<ul style="list-style-type: none"> Pseudo-random approach Slipping a letter in all mailboxes to the neighborhoods occupied in 2012 and 2013.
HDB Resale	<ul style="list-style-type: none"> Pseudo-random approach Address is known except for the floor number; Randomly select a certain number of apartments from each floor.
HDB Rental	<ul style="list-style-type: none"> Random selection
Private Sale	<ul style="list-style-type: none"> Pseudo-random approach Address is known, but not sure whether it is owner- or renter-occupied.
Private Rental	<ul style="list-style-type: none"> Random selection Property name is known, but no other information.

This is a sample survey with a cross-sectional design. The sample of the Residential Mobility and Preference Survey consists of 2,000 households. A stratified, multi-stage sampling plan is used to select the sample. The survey design has two stages. The first stage being a sample of geographic areas (referred to as clusters). Then a list of all the dwellings in the selected clusters is prepared, and a sample of dwellings is selected. The selected dwellings that are inhabited by members of the target population constitute the survey's sample of households.

An estimated 10-15 percent of all households have moved within the past 24 months in Singapore. For a random sample of households to yield 2,000 households who moved in the last 24 months, approximately 14,000-20,000 households are required. A two-stage stratified sample design can improve the efficiency of the survey without compromising the statistical projections if we can identify and quantify the bias from the stratification.

Table 1. Estimate of Sampling Size for Each Market Segment

Market Segment	Percentage	Households Required	No. of Households to Reach Based on Incidence Rate and Respondent Rate	
			Incidence Rate: 10% Respondent Rate: 25%	Incidence Rate: 15% Respondent Rate: 25%
HDB New Sale	15%	300	1,200	1,200
HDB Resale	26%	520	20,800	13,867
HDB Rental	4%	80	3,200	2,133
Private New Sale	20%	400	1,600	1,600
Private Resale	17%	340	13,600	9,067
Private Rental	18%	360	14,400	9,600
Total	100%	2,000	54,800	37,467

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