Public Housing Choices in Singapore: Planning Implications

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ABSTRACT *In the light of the recent oversupply of public housing flats in Singapore, this paper examines buyers' preference for public housing options in Singapore, namely, new flats in new estates, new flats in mature estates and resale flats in mature estates. By looking at the buyers' perspectives, the results indicate four factors, namely, physical, amenities, spatial and financial benefits are important in influencing buyers' choice of Housing and Development Board (HDB) flats. It can be concluded that the main reason for the lack of interest for new flats in new estates is due to the lack of amenities and transportation infrastructure. The findings in this study can assist the HDB in the planning and designing of future flats and housing estates. This will eventually result in the optimisation of resources in the public housing market in Singapore.*

KEY WORDS: public housing, planning, Singapore

Introduction

New towns in Singapore are an integral part of its high-rise public housing programme which was inaugurated on a large scale in 1960 with the establishment of the Housing and Development Board (HDB). The success of HDB in solving the problem of housing shortage in the early days is widely recognized. Although HDB has achieved much, Singaporeans' aspirations are also growing and this is reflected in their choice of housing. Some choose to live in private housing while the 85% (HDB, 2001/02) who choose to stay in HDB flats have been more selective about the flats they choose to live in.

According to the HDB Annual Report (2001/02), HDB aims to create a living environment to meet the growing aspirations of Singaporeans through optimisation of land use and making landscaping an integral part of public housing development. However, at the end of 2001, the public was informed of the oversupply of 17,500 new HDB flats in new towns with an estimated worth of $4.4 billion. This situation is rare in HDB's 43-year history. In the past, the problem was that the supply of new flats could not keep up with the demand. In 1994, and again in 1997, the HDB had to change its flat-allocation system due to the overwhelming demand. First-time applicants were being squeezed out by upgraders who wanted to profit from the subsidies for new flats. Now, for the first time, there is a supply overhang severe enough to warrant a halt in the HDB's building programme. In January 2002, National Development Minister Mah Bow Tan said that the programme would only resume when supply was 'brought down to a reasonable level'. In January 2003, Mr Mah commented in Parliament that the building programme would resume in two years' time.

The situation improved slightly when HDB announced the replacement of the Registration for Flats System (RFS) with the Walk-in Selection for flats (WIS). This was also accompanied by concerted marketing efforts by the HDB. The WIS system was quite well received from the public as they could purchase a flat on the spot instead of waiting for a few years under the RFS. Since its introduction in the first quarter of 2002, the WIS has reduced the overhang to 12,000 as at January 2003. While the WIS has helped to reduce the oversupply, it serves only as a temporary solution.

There are differing answers to the question of whether the current overhang is temporary or whether it marks a fundamental shift in buyers' preferences. Some analysts have viewed the overhang as a short-term phenomenon caused by the economic slowdown, which has lowered resale flat prices and hence caused the gap between the

prices of resale flats and that of new flats to narrow. As a result, new flats may seem relatively unattractive in terms of pricing. In addition, the economic slowdown has caused some HDB flat owners to suffer from negative equity of their flats and hence they may be reluctant to sell and purchase a new flat. The oversupply may also reflect the time lag required for construction and the difficulty in forecasting demand.

On the other hand, the overhang may signify a fundamental shift in buyer's preferences due to higher aspirations of the population. Hence, this paper aims to examine buyers' preference for HDB housing products by looking at the buyers' perspective on the various public housing attributes. The challenge is to determine the underlying housing attributes which are significant in buyers' choice of HDB flats. Once the significant attributes are identified, they can be incorporated into the development of future estates and into the design and implementation of future HDB flats.

British New Towns

The development of new towns in Singapore originated from the housing development concepts in Britain. These concepts were adopted and modified to suit Singapore's needs. Thus, to fully understand the structure of Singapore new towns, it is essential to address the concepts from Britain.

The development of new towns in Britain evolved from the Garden City concept which was first expressed by Sir Ebenezer Howard. He imagined "garden cities" being surrounded by a "country belt" which was later called "the new towns movement" (Little, 1990). Rodwin (1956) summarised the concept of the Garden City as one which combines the advantages of both town and country and the disadvantages of neither. It was this Garden City concept that laid the foundation for the development of new towns. Golany (1976) defined new town as a newly built or expanded urban settlement created to combine both urban and rural environments. It is a planned community with a distinct confined and compact built-up area surrounded by a greenbelt and with green and open spaces planned as an integral part of the town. As mentioned by Osborn and Whittick (1977), the fundamental objective of setting up British new towns was to alleviate the congestion and housing stress of the larger metropolitan areas. The complementary objective was to improve employment opportunities and living standards for people in depressed economies.

Thomas (1969) expressed that new towns should be self-contained and balanced communities for work and play. Cresswell and Thomas (1972) explained that self-containment implies that new towns should provide all the necessary facilities for their inhabitants. Robinson (1973) illustrated that new towns should be balanced communities, not only in terms of employment and population and the provision of industrial, commercial, recreational and residential areas, but also with regards to age, income and class composition.

Mark I New Towns

The characteristics of self-containment and balance were adhered to in the design of Mark I new towns between 1946 to 1950 (Diamond, 1972). According to Ratcliffe (1982), the new towns during this period were developed according to the "neighbourhood unit" concept. Campbell (1976) regarded a neighbourhood as the basic residential unit within which the residential areas are clustered together with an increased amount of open space resulting for common use. Perry (1975), the formulator of the neighbourhood unit concept, laid out six fundamental physical planning principles of the neighbourhood unit: schools, boundaries, open spaces, institutional buildings, retail districts and the internal street layout. His main goal was to produce social interaction. However, Ratcliffe (1982)

criticised that social ties were weakened instead. This was because in certain new towns, people seemed reluctant or unable to travel from one neighbourhood to another as the distance between shops and schools was inconvenient for mothers of young children.

Mark II New Towns

Hence, Mark II new towns (1952 to 1959) changed their focus. Ratcliffe (1982) noticed that there was a movement away from seeking a social balance by complete integration, and also fewer adherences to the formal idea of a neighbourhood unit. By allowing for a higher density, distinct total pedestrian-vehicle segregation and ensuring that everyone was within walking distance of everyone else, it was hoped that social intercourse would be facilitated during this development stage.

Mark III New Towns

According to Diamond (1972), Mark III new towns (1961 onwards) gave prominence to the development of the transport network and were based on a balanced use of public and private transport as envisaged in Runcorn. Cullingworth (1976) emphasised that a wide range of facilities were already available in certain towns by this time. This signified that there was a deliberate mixing of compatible activities in order to promote vitality.

Singapore New Towns

In Singapore, the new town model is based on the principles of neighbourhood planning and hierarchy of service provision in which the distribution of the town centre, neighbourhood centre and sub-centres is clearly defined. Wong and Yeh (1985) defined new towns as very large residential developments that are comprehensively planned, usually with facilities to support the community so that it can lead to an adequate existence, fairly independent from the city and other major centres. Although based on western textbook prescriptions, the Singapore development has evolved over the years to differ from similar developments in Britain in its high-rise, high-density character (Yuen, 1996). As explained by Teo (1986), this is due to the land scarcity problem in Singapore.

In addition, Teo (1986) noted other differences. Singapore new towns are built to be self-contained with two major exceptions: there are relatively few opportunities for office employment and activities that require the support of large user population e.g. cultural centres. However, by virtue of the 1991 Concept Plan, which advocated the decentralization of commercial activities, more employment and activities have been brought to suburban towns and regional centres. Another difference lies in Singapore being a multi-racial society which sees the need to encourage the mixing of the various ethnic groups in the new towns.

However, Teo (1986) was quick to point out that despite these variations, the basic objectives of new town development remain essentially the same. It constitutes a means of decentralization from the city centre while simultaneously satisfying the basic social, economic and aesthetic needs of the people. However, Wang (1985) argued that new town development is a strategy adopted to stimulate the revitalization of the city core and the achievement of a planned pattern of population distribution.

Similar to the grouping of British new towns into Mark I to III new towns, various authors have grouped new town development in Singapore into different stages. Notably, Wang and Yeh (1987) divided it into four stages.

First Stage of New Town Development

Under the first stage during the Singapore Improvement Trust (SIT) period, new towns were adopted as a means to decentralisation. According to Wang (1987), the aim was to provide a maximum housing density at a minimum cost to accommodate as many residents as possible. Fonseca (1976) argued that a high density use of land need not be characterized by high-rise buildings, and illustrated that by building low-rise housing, a similar level of density could be achieved. However, Wang (1987) considered low-rise, high-density housing as an 'ideal' environment for the breeding of 'social unrest'.

Second Stage of New Town Development
The second stage of development in the 1960s first introduced the neighborhood unit concept and the concept of traffic segregation in the building of Toa Payoh New Town. These were both adopted from Mark I and Mark II of the British new towns respectively.

Third Stage of New Town Development
The third stage saw the emergence of larger flats and improved finishes for the middle-income groups. Chih (2002) noted that it was during this stage that a prototype new town model was formulated to guide the development of subsequent new towns. This prototype model clearly outlined the hierarchy and distribution of activity nodes, as well as the type, number and size of various facilities. Furthermore, Teo (1996) pointed out that new towns in this stage were dominated by three-, four- and five-room flats, in contrast to the smaller units and standard design found in Toa Payoh New Town. According to Teo (1986), the neighborhood was considered too large to facilitate social interaction among residents. Hence, the precinct concept was introduced in 1978 to improve interaction.

Fourth Stage of New Town Development
With the basic housing problem solved, the fourth stage of new town development in the 1980s began to emphasise on architectural identity, the experiment of low-rise buildings and the consideration of site arrangement to maximise open space utilisation and minimise noise pollution (Wang, 1985). Wong and Yeh (1985) emphasised that it was desirable for the public housing environment to not only avoid the stereotype monotony of its standardized elements but also to have its own identity and character.

Present Stage of New Town Development
As new town development entered the 1990s, emphasis was on service and quality of development and environment (Yuen *et al*., 1999). On the other hand, Sim *et al*. (1993) contended that the emphasis was on achieving 100 per cent home ownership within the public housing sector, coupled with the provision of larger housing types and the constant upgrading of older and / or smaller housing units. This was in line with the declared goal of becoming a 'tropical city of excellence' (Liu, 1997).

As HDB began building taller blocks from year 2000 onwards, it made conscious efforts to balance high-rise living with creative landscape designs, to enhance the living environment as well as offer conducive places for neighborly interaction and community bonding. Fresh design ideas, and improvements to finishes and fittings were also incorporated into new HDB flats (HDB 2000/01, p39).

Current Issues in Singapore's New Town Development

Although new town development in Singapore has come a long way and has improved throughout the years, it is not without any challenges. A recent challenge was clearly felt on the announcement of oversupply of flats resulting in 17,500 new HDB flats in new

towns unsold (Lim, 2002a). Subsequently, it was announced that HDB will scrap the Registration for Flats System (RFS) as the overhang of flats highlighted the need to review the RFS which worked well when demand was high (Lim, 2002b).

The oversupply problem in new towns could be traced back to previous reports on shortcomings in the new estates. According to Foo (2001), to achieve high standard of housing, HDB new town planning operates along the three main objectives, one of which is the integration of transport and land use. However, the timing of the integration became an issue, as seen in a newspaper report by Yeo (1998) which reported that the MRT line was not even developed when the first Sengkang New Town residents moved in. Amenities such as childcare centres and clinics were also lacking. This was also the same situation in Jurong West New Town where residents complained about the lack of amenities like convenience stores in the neighbourhood. This has led to only 7 units purchased in a block of 96 flats (Yeo, 2002). Although new flats in new estates have been praised for their attractive facade and modern interior design, the size of the flats seems to be an issue.

The above implies the significance of the housing attributes of the flat, as well as the characteristic of the housing estate, such as the integration of the land use and transport, in homeowners' choice of pubic housing. Although there may be other external factors which affect the choice of a public housing flat, it is critical to account for the housing attributes and the characteristic of the public housing estate in the planning process both from a micro and the macro perspectives. Table 2 lists these attributes which where developed from the qualitative research phase and review of the literature on housing.

Public Housing Choice Options

As this study is primarily about the different choices of HDB flats that are available to the prospective homebuyers, it will be useful to give a background knowledge of these flats, namely, new flats in new estates, new flats in mature estates and resale flats in mature estates. Appendix 1 provides further details and a comparison of the various housing attributes between the three public housing choices.

New Flats in New Estates

For the purposes of this study, a new flat is defined as one which is new and most of the flats in the estates are less than 5 years of age. A new estate is less than 10 years old. Examples of new housing estates include Sengkang, Punggol 21, Jurong West, Bukit Panjang, and Sembawang. As these estates are relatively new, amenities and transportation network may not be well developed. The main distinction of this category from the other two categories is that each new housing estate has its own theme e.g. Punggol 21 is described as a waterfront living experience while Bukit Panjang is portrayed as living close to nature.

New Flats in Mature Estates

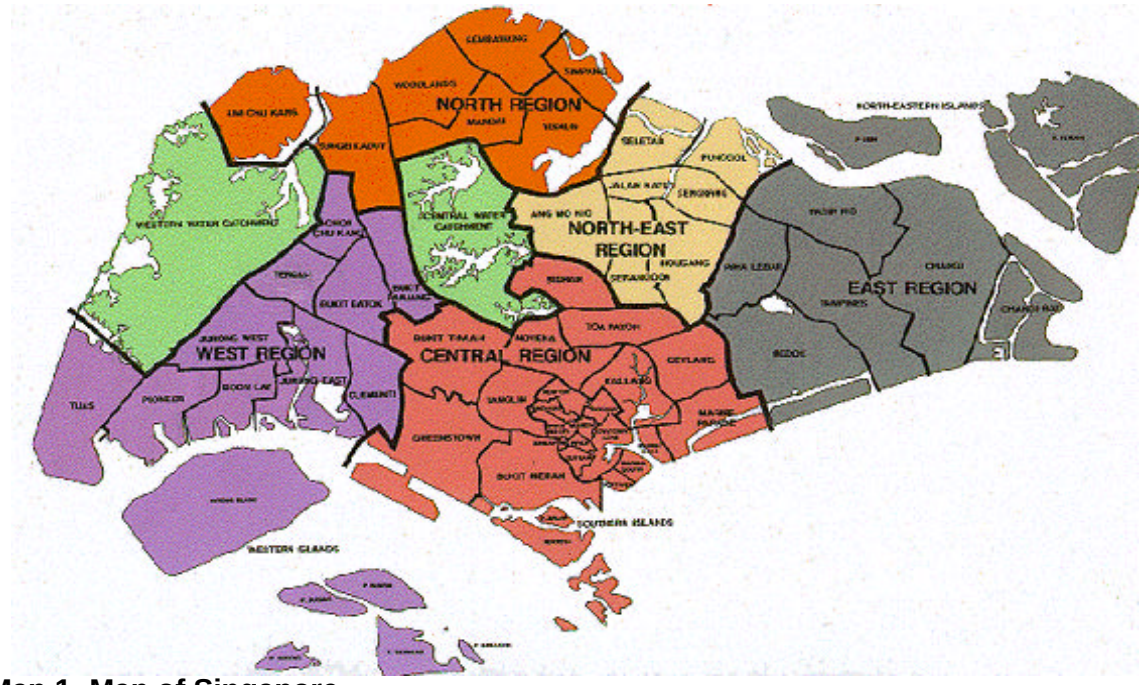
New flats in mature estates offer an opportunity for eligible flat buyers to own a new home in an established estate. In general, a mature housing estate is one where amenities, infrastructure and efficient transportation modes such as MRT and public bus networks have been fully completed. Besides satisfying the urgent need for accommodation, these flats serve to strengthen community ties and facilitate family bonding for mutual care and support. Examples of new HDB flats in mature estates are located in Ang Mo Kio, Toa Payoh, Bukit Merah etc.

Resale Flats in Mature Estates

Resale flats are those which are transacted in the open market. Such flats are more than 5 years of age. The flats belonging to this category were built as early as since the 1960s when HDB was first set up. The first estate, Toa Payoh New Town which was developed in 1965, was comprehensively planned with a wide range of amenities and well developed transport network. Examples of these estates include, Bedok, Clementi, Marine Parade and Tampines.

Research Methodology

The researchers have adopted a mixed method design to investigate the research question in this study. This involves a combination of qualitative and quantitative approaches. During the qualitative phase, in-depth interviews were conducted with twenty HDB homeowners and real estate professionals, such as housing agents, estate officers etc. The objective was to identify the housing attributes which would influence HDB homebuyers' decision and to solicit opinions from the interviewees on the three public housing options. Coupled with the literature review, the results of the qualitative phase showed that there are twenty housing attributes which are significant in influencing buyers' decision. Another finding was that the interviewees generally prefer new flats in mature estates as they could enjoy the dual benefits of new flats in good condition and an established network of amenities and public transportation. These useful research findings will then form the framework for the quantitative research.



Map 1: Map of Singapore

Source (URA, 2003)

In the quantitative research phase, quantification of data is usually done by way of a structured questionnaire and application of some form of statistical analysis on the data collected. The statistical analyses carried out for this research study are namely, factor analysis and discrete choice (multinomial logit) model. Face-to-face surveys were

conducted with 500 respondents across the whole island (see Map 1) by way of multi-cluster sampling technique. Five areas were selected as demarcated by the Urban Redevelopment Authority of Singapore (URA). These five areas are, namely, the west, north, northeast, east and central regions of Singapore. A total of 100 surveys were administered in each area. Each respondent was required to rate each housing attribute for three HDB housing options, namely, "new flats in new estates", "new flats in mature estates" and "resale flats in mature estates" on a 7-point Likert Scale, where '1' = Poor, '4' = Neutral and '7' = Excellent. In addition, respondents were asked to state their preferences by ranking the three options. A rank of '1' for a particular flat option indicates that it is the most preferred while a rank of '3' indicates that it is least preferred.

Table 1: Mean Perception Ratings of the Three HDB Flat Options

Attributes	Mean Perception Ratings		
	New Flats in New Estates	New Flats in Mature Estates	Resale Flats in Mature Estates
Design of Internal Layout	4.15	4.14	4.33
Variety of Apartment Types	4.21	4.04	4.58
Quality of Internal Finishes	4.42	4.45	3.54
Quality of Fittings	4.40	4.22	3.60
Spaciousness	3.41	3.76	5.19
E-enabled Apartment	3.99	3.24	2.77
Picturesque View/ Scenery	3.62	3.66	3.97
Design of Building Exterior	4.96	4.33	3.44
Quality of External Works	4.96	4.69	3.62
Quality of M&E Services	4.88	4.56	3.51
Security	3.59	3.86	3.67
Open Space	2.98	3.63	4.58
Landscaping	4.76	4.27	4.05
Quality of Maintenance	4.67	4.25	3.56
Availability of Amenities	3.25	5.03	5.31
Availability of Transport Network	3.45	5.13	5.19
Accessibility to Facilities and Amenities	3.43	5.08	5.18
Availability of Recreational Facilities	2.99	5.11	5.00
Price	3.57	2.94	2.97
Level of Perceived Subsidy	3.63	3.19	3.37
Overall Mean	**3.97**	**4.18**	**4.07**

Mean Perception Ratings

Table 1 shows that new flats in new estates scored the highest mean ratings among the three housing choices for the attributes relating to design and quality, namely, "design of building exterior", "quality of internal finishes and fittings", "quality of external works" and

"quality of M&E services" and "quality of maintenance". Furthermore, it scored the highest for the attributes "price" and "level of perceived of subsidy", implying that new flats in new estates require a lower cost of ownership. However, the overall mean rating for new flats in new estates was the lowest. This could be attributed to much lower mean ratings for attributes relating to amenities, transportation and spaciousness.

The highest overall mean rating for new flats in mature estates was attributed mainly by high mean ratings of above 5 for the attributes "availability of amenities", "availability of transport network", "accessibility to facilities and amenities" and "availability of recreational facilities". Although resale flats in mature estates also scored high mean ratings for these attributes, it scored below average for most attributes, particularly those which are related to design and quality. Hence, this explains why new flats in mature estates have a higher overall mean rating than resale flats in mature estates.

Ranking of HDB Flat Options

Table 2 shows that 39.8% of the respondents ranked new flats in mature estates first while resale flats in mature estates and new flats in new estates were ranked second and third respectively. This is consistent with the results from Table 1 where new flats in mature estates have the highest overall mean rating. Furthermore, results from the table of ranking are reflective of the findings from the qualitative phase where most interviewees preferred new flats in mature estates.

Table 2: Ranking of HDB Flat Options

HDB Flat Type	Rank			Total
	1	2	3	
New Flats in New Estates	124	132	244	500
% within rank	24.8%	26.4%	48.8%	100.0%
New Flats in Mature Estates	199	157	144	500
% within rank	39.8%	31.4%	28.8%	100.0%
Resale Flats in Mature Estates	177	211	112	500
% within rank	35.4%	42.2%	22.4%	100.0%
Total	500	500	500	1500
% within rank	100.0%	100.0%	100.0%	100.0%

Choice of HDB Flat Options Analysis

Using the data relating to the perception ratings and ranking of the HDB flats in the choice set, a HDB flat choice analysis was carried out.

Factor Analysis

Table 3 presents the results of the factor analysis. The values of the Bartlett's test of sphericity (0.000) and KMO (0.892) indicate that the data are appropriate for factor analysis. Factor analysis using varimax rotation yielded four housing factors with eigenvalues greater than 1 and these factors account for 64.10% of the variance within the original variables. The four factors are *physical*, *amenities*, *spatial* and *financial benefits*. Table 3 shows the attributes which load in each factor. Coefficient alpha estimates for three factors exceed 0.65, which indicate acceptable reliability as proposed by Dawson et al. (1990). Although the fourth factor has a coefficient alpha of 0.64, it is still reliable as it is just 0.01 below the benchmark of 0.65.

Table 3: Latent Dimensions of Housing Attributes

Factor	Attributes	Factor Loadings
Factor 1 **Physical** Variance: 24.02% Coefficient Alpha: 0.88	Quality of External Works Quality of M&E Services Design of Building Exterior Quality of Internal Finishes Quality of Fittings Quality of Maintenance Landscaping E-enabled Apartment Security	0.849 0.835 0.815 0.785 0.729 0.723 0.634 0.504 0.407
Factor 2 **Amenities** Variance: 20.18% Coefficient Alpha: 0.89	Accessibility to Facilities and Amenities Availability of Transport Network Availability of Amenities Availability of Recreational facilities Spaciousness Security Open Space	0.912 0.884 0.883 0.873 0.541* 0.351* 0.538*
Factor 3 **Spatial** Variance: 11.11% Coefficient Alpha: 0.77	Variety of Apartment Types Design of Internal Layout Spaciousness Open Space Picturesque View / Scenery	0.719 0.703 0.589 0.584 0.527
Factor 4 **Financial Benefits** Variance: 8.79% Coefficient Alpha: 0.64	Level of Perceived Subsidy Price E-enabled Apartment Picturesque View / Scenery Security	0.766 0.692 0.454* 0.354* 0.341*
Bartlett's Test of Sphericity Kaiser-Meyer-Olkin Measure of Sampling Adequacy Total Variance		0.000 0.892 64.10%

** Denotes an attribute with a higher loading within another factor*

Discrete Choice (Multinomial Logit) Model

Using the factor loadings generated from the factor analysis, a discrete choice model was performed to determine the effects of the factors in influencing respondents' choice of HDB flats. The results are presented in Table 4. The goodness-of-fit index (p^2) should vary between 0 and 1. The model has produced a goodness-of-fit index of 0.264. The result of the likelihood ratio test implies the rejection of the null hypothesis that all the parameters are zero and shows the ability of the independent variables in the model to predict the choice of HDB flats.

Table 5: Results of Discrete Choice Model

Factors	Coefficient	Standard Error	t-value	Sig. value
Physical	0.301	0.0645	4.659	0.0000
Amenities	0.399	0.0904	4.412	0.0000
Spatial	0.170	0.0761	2.239	0.0251
Financial Benefits	0.205	0.0695	2.949	0.0032

Summary Statistics

Number of observations	500
Iterations completed	4
Goodness-of-fit index (p^2)	0.264
($?^2$)	1870.607
Critical Chi Square Value (Degree of freedom=4, significant level=0.05)	9.49
Significance Level	0.000

Table 4 shows that at 0.05 level of significance, all the four factors are statistically different from zero, thus implying that all four factors have an effect on the dependent variable. The factors *physical* and *amenities* have higher coefficient estimates than *spatial* and *financial benefits*. This implies that the former two factors have a stronger relationship with the choice of HDB flats than the latter two. This is because estates with better *amenities and physical* attributes may result in more convenience and better living for the potential homebuyers.

F*inancial benefits* is less important than *physical* and *amenities* as buyers may not mind forking out a higher price now if the flat can fetch a higher resale value in the future. The factor *spatial* is the least important in respondents' choice of flats. This could be attributed to the formation of smaller household sizes. According to the Singapore Department of Statistics, the average household size has dropped from 4.2 in 1990 to 3.7 in 2000.

The above findings are consistent with the results from the mean perception ratings and ranking distribution as shown in tables 1 and 2. The *physical* and *amenities* related factors are rated highly for new flats in mature estates which have the highest percentage of 1st ranking. Table 4 shows that the factors *physical* and *amenities* have a stronger relationship with respondents' choice of HDB flats. As table 2 has shown that new flats in new estates scored higher mean perception ratings in the physical-related attributes, it can be inferred that the lack of interest to purchase new flats in new estates may be due to the lack of amenities.

Planning Implications and Conclusion

The unsold flats in the new housing estate will cause the government to incur economic opportunity costs. Hence, there is a need to optimise resources in order to avert the problem of oversupply in the future. To achieve this, in addition to other factors which are not within the scope of this study, HDB should consider the four significant factors of *physical*, *amenities*, *financial* and *spatial* in the development of future housing estates so that buyers' preferences can be met more effectively.

As at January 2003, the oversupply stood at 12,000 new flats in new towns. To resolve this overhang, HDB should pay more attention to the *amenities* in these new housing estates. These include the accessibility to facilities and availability of amenities, transport network, as well as recreational facilities. Earlier, it has been established that the lack of amenities may be the main cause of the lack of interest to purchase new flats in new estates. Thus, this implies that certain amount of amenities and transport infrastructure must be provided by the time residents have moved in so as to increase their convenience. Although Singapore is renown for its commitment toward the integration of land use and transport uses (Ibrahim, 2003), the findings of the study imply the need to look at the timing of the integration process.

This view is supported by the Economic Review Committee (ERC) report which suggested that transport infrastructure should be built in advance instead of only when passenger load justifies it (Gueverra, 2002). The rationale is that the developed transport infrastructure in new towns would attract people to live in them. However, in the point of view of shop owners, they may not be willing to set up businesses when the population of the town is not enough to sustain their businesses. A suggestion is that HDB can play their part by offering incentives to the shop tenants such as lower rental for the first few months of business. HDB may also wish to consider charging rental based on a percentage of the business turnover.

Finally, the study has provided a perspective that may explain for the lackluster in the demand for new flats in newer housing estates, although there may be other factors affecting the demand for such flats. Essentially, prospective homebuyers will evaluate the various alternatives that are available to them before making their choices. Within the available public housing options, it is clear that there is a need for concerted effort in balancing the timing of the provision of amenities in new housing estates. This should be done at the planning stage of the housing estate. Nevertheless, it requires proper coordination among the relevant agencies involved in town planning. In addition, issues relating to what would be a sufficient amount of provision of amenities to stimulate demand will need to be dealt with carefully. Otherwise, there will be wastages due to overprovision. Nevertheless, with its relatively lower price level and better physical attributes, new flats in newer estate will likely attract more people if there are adequate level of provision of amenities and transport network when they move in the housing estate. This will help to reduce the overhang in supply and contributes towards the optimization of resources in the public housing market in Singapore.

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Appendix 1

Housing Attributes	New Flats in New Estates	New Flats in Mature Estates	Resale Flats in Mature Estates
Age of Flat	New	New	Usually more than 5 years
Age of Estate	Less than 10 years	More than 10 years	More than 10 years
Area (average)	3-rm: N.A 4-rm: 90 sqm 5-rm: 110 sqm Executive: 130 sqm	3-rm: N.A 4-rm: 75 - 103 sqm 5-rm: 105 - 123 sqm Executive: N.A	3-rm: 54 - 75 sqm 4-rm: 72 - 105 sqm 5-rm: 120 - 135 sqm Executive: 130 -145sqm
Layout	Inclusion of household shelters.	Inclusion of household shelters.	Exclusion of household shelters.
Internal Finishes Provided	Selected finishes e.g. bathroom and kitchen tiles, skim coated or plaster and paint walls.	Selected finishes e.g. bathroom and kitchen tiles, skim coated or plaster and paint walls.	All finishes.
Fittings Provided	Selected fittings e.g. doors, sanitary fittings, windows.	Selected fittings e.g. doors, sanitary fittings, windows.	All finishes (including kitchen sink)
Amenities	Insufficiently catered e.g. lack of wet markets.	Well-catered with schools, wet markets, retail outlets and eateries.	Well-catered with schools, wet markets, retail outlets and eateries.
Public Transport Nodes	LRT (for Bukit Panjang), MRT and bus.	Extensive network of MRT and bus.	Extensive network of MRT and bus.
Average Price (4th Qtr 2002)	3-rm: N.A 4-rm: $143,000 5-rm: $221,000 Executive: $340,000	3-rm: N.A 4-rm: $235,000 5-rm: $367,000 Executive: N.A	3-rm: $156,000 4-rm: $230,000 5-rm: $361,000 Executive: $448,000
Salient Housing Policies	? Gross monthly household income must not exceed $8,000. ? Proposed occupiers must not have an interest in any private property at the time of application. If the applicant owns a private property, he must dispose of it for at	? Gross monthly household income must not exceed $8,000. ? Proposed occupiers must not have an interest in any private property at the time of application. If the applicant owns a private property, he must dispose of it for at	? No restriction on income ceiling, unless applying for CPF housing grant. ? No restriction on ownership of private property, unless applying for CPF housing grant. However, applicant must stay in the HDB resale flat.

	least 30 months before he can apply for a flat direct from HDB. ? 10-year time bar* for those applying for a second flat direct from HDB. ? Minimum occupation of 5 years must be fulfilled before sale of the flat is approved.	least 30 months before he can apply for a flat direct from HDB. ? 10-year time bar* for those applying for a second flat direct from HDB. ? Minimum occupation of 5 years must be fulfilled before sale of the flat is approved.	? 5-year time bar for those applying for a second resale flat under the Housing Grant Scheme. If not, 30 months time bar applies. ? For those who have taken the CPF housing grant, minimum occupation of 5 years must be fulfilled before sale of the flat is approved. If not, minimum occupation period 30 months applies.

*10-year time bar is computed from the date of purchase of existing apartment to date of application for new apartment.

Source: HDB Infoweb and HDB Sales Brochures