Long Run Patterns of Housing Prices in Melbourne

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Long Run Patterns of Housing Prices in Melbourne - Contents

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Executive Summary

This report summarises findings from a research project looking at the long run patterns of housing prices across Melbourne suburbs. Using Valuer General unit-record level residential transactions data covering the period 1976-2010, sale records in Melbourne have been ranked and put into four equal count groups (quartiles) for each year of sale.

The research then examines changing spatial patterns of relatively *higher cost* and relatively *lower cost* housing across Melbourne's suburbs. The analysis highlights changing patterns of spatial distribution and concentration. These are often masked when using aggregate data.

A comparison of the distribution of lower cost house sales between 1976 and 2009 shows some dramatic differences. In 1976, many inner and middle suburbs to the north and west of Melbourne had very high concentrations of lower cost housing, with over 60% of their sales in the lowest Melbourne quartile. Although many eastern suburbs generally had lower proportions of sales in the lowest price quartile, at that time the distribution was still somewhat mixed with some suburbs having moderate proportions of sales in the lower price quartiles.

In contrast, by 2009 nearly all the inner and middle suburbs of Melbourne had only negligible proportions of house sales in the lowest price quartile. An increasing homogeneity of sales is observed over the study period. By 2009 essentially all sales in the inner and middle ring were in the top price quartile. Overall, the proportion of house sales in the inner region of Melbourne in the lowest price quartile dropped from 35.7% in 1976 to 2.3% in 2009.

Three main trends account for dramatic changes in the distribution of lower cost housing between 1976 and 2009:

- Many formerly low cost suburbs have gentrified and now have few low cost houses;
- Some outer suburbs have declined, with increasing proportions of lower cost dwellings; and
- Some high cost suburbs have remained high cost and have in fact seen increasing proportions of high cost housing.

Firstly, suburbs to the north and west of Melbourne experienced successive waves of gentrification. Gentrified suburbs have seen rapid decreases in their proportions of lowest quartile sales, and corresponding increases in higher quartile sales. In Melbourne's housing market **some things change**: once low cost suburbs - like Richmond, Port Melbourne, Brunswick and Northcote - have become predominantly high cost. In 1976, 65.9% of house sales in Brunswick were in the lowest Melbourne price quartile. This dropped to 51.3% by 1986, then to 27.6% in 1991 and to only 9.7% in 1996. Since 2001, less than 5% of Brunswick house sales have been in the lowest Melbourne price quartile.

Meanwhile, some suburbs moved in the opposite direction. Many aging subdivisions on the urban fringe had increasing proportions of lower cost housing. Typically, areas in Melbourne that were subdivided 2 or 3 decades ago are now home to very high and increasing proportions of relatively low cost housing. Hampton Park in Melbourne's south east was initially developed through the late 1970s and early

1980s. By 2006, 84.4% of house sales in Hampton Park were in the lowest quartile for Melbourne.

Finally, other things in Melbourne's housing market **stay the same**. Traditionally, higher cost suburbs have been located in the inner and middle eastern suburbs – from Ivanhoe through Camberwell, Glen Waverley and Brighton. For these higher cost suburbs, the key trend to emerge over the study period is that their housing markets have become increasingly homogenous over time, with sales increasingly concentrated only in the top Melbourne price quartile. In 1976, 57.3% of houses in Camberwell were in the top Melbourne quartile. This figure increased to 86.9% by 1991 and to 94.5% in 2009.

Melbourne's lower cost housing has tended to be increasingly located in three main types of location, all in outer and fringe areas:

- older subdivisions;
- more established fringe locations; and
- peri-urban areas.

This pattern is the opposite to the location of sales in the highest price quartile. The evidence suggests that suburbs are becoming more homogenous and segregated in price. Sale prices are increasingly polarised, with strong spatial differences between inner and outer areas. Fewer suburbs are of mixed or middle price levels.

An index of dissimilarity, a statistical measure of the evenness with which two groups are distributed across a given area, shows that dissimilarity between has increased. In 2009, 70.2% of house sales in Melbourne would need to cross suburb boundaries in order for there to be an even distribution of higher and lower cost sales.

Other dwelling types – units and apartments – have a role in the housing market. The index of dissimilarity indicates that, when taking units and apartments into account, Melbourne's housing market is less segregated. The role of units and apartments differs by location and submarket. In general, the lowest cost dwelling sales are predominantly houses in the outer and growth areas. However, units and apartments are generally lower in cost than are houses. This is more important in higher cost submarkets. In the inner Melbourne suburbs, only 8% of all dwelling sales were in the lowest price quartile for Melbourne, of which 96.6% were units and apartments.

Introduction

Background to this report

This report summarises findings from a research project looking at the long run patterns of housing prices across Melbourne suburbs. The research arose from a desire to better understand spatial patterns in Melbourne's housing market and the impacts of long term change in these markets. The gentrification of formerly working class inner suburbs is a familiar story to most Melbournians. Escalating housing purchase costs in certain parts of the city – to levels apparently well beyond the means of most first time home buyers – have likewise been a source of ongoing discussion in the community and may be of policy concern to governments.

Using Valuer General unit-record level residential transactions data covering the period 1976-2010, sale records in Melbourne have been mapped and then ranked and put into four equal count groups (quartiles) for each year of sale. The research then focuses on changing spatial patterns of relatively *higher cost* and relatively *lower cost* housing across Melbourne's suburbs. An advantage of this approach is that it identifies patterns of spatial distribution and concentration which can tend to be masked when using aggregate or median data.

This report presents a selection of data, maps, and analyses that illustrate the changing spatial distribution of lower cost housing; the changing spatial distribution of higher cost housing; and housing price patterns in suburbs that are examples of key trends. It also looks at measures of changing spatial concentrations of relatively high and relatively low cost areas, and at the role of units and apartments. The latter in particular is identified as an area for further research.

Research questions

The project looked at the following research questions:

1. What are the patterns of compositional change of sales in Melbourne's suburbs, expressed as proportions of houses sold in each Melbourne price quartile?
2. Can we identify suburbs that:
    a. Have always been relatively expensive?
    b. Have always been relatively cheap?
    c. Which used to be cheap and now are expensive?
    d. Which used to be expensive and are now cheap?
3. What have been the broad spatial patterns of housing price changes over time? And;
4. Has the distribution of relatively affordable housing changed over time?

Of particular interest is pointing to some of the policy implications arising from long run spatial changes to the city's housing market. Are there fewer if any opportunities for lower income first home buyers to buy in certain areas? If fewer low cost housing opportunities are situated in some areas, then where is lower cost housing increasingly located?

Method

The research is based on unit-record residential sale records in Melbourne, over the period 1976-2010 (part). Census years are the focus. Sales have been ranked and put into four equal count groups (quartiles) based on their type and their year of sale. Quartile 1 is the lowest 25% of sales in Melbourne in that year, or lower cost housing. Quartile 4 is the highest 25% of sales, or higher cost housing. Quartiles 2 and 3 are the middle price points. There are two types of quartiles used – house sales, and all dwelling sales (houses and units/apartments combined). The proportions of house and dwelling sales in each Melbourne suburb that were in each price quartile in different years are then examined. The data does not control for compositional differences such as house size.

The data on which the research is based, and the analytical approaches taken, are described in detail in the Appendix to this report. There are some caveats on the data and method. These can also be found in the Appendix.

Main findings

The main findings from the research can be summarised as:

- ***Some things change***: low cost housing has disappeared from some formerly low cost areas
- ***Some things stay the same***: some suburbs have always been relatively higher cost
- Higher priced suburbs
    - Have traditionally been in the eastern suburbs
    - Are increasingly concentrated in the eastern and inner suburbs
    - ***Higher priced suburbs are increasingly homogenous***: with fewer opportunities for lower income households
- The lower priced suburbs:
    - Have traditionally been in the western and northern suburbs
    - But many of these have experienced waves of gentrification
    - The more affordable suburbs now are often subdivisions from recent decades, that filter down in price
    - ***Lower priced suburbs are increasingly in fringe and peri-urban areas***
- ***Sale prices are increasingly polarised***, with strong spatial differences between inner and outer areas
- Flats and units make a difference in some housing submarkets but not all. The role of units and apartments in the composition of Melbourne housing prices is an area for further research.

Housing price trends

Changes in the 25th, 50th, and 75th percentiles of Melbourne house prices are illustrated at Figure 1. Housing prices in Melbourne have increased substantially over the period covered by the data. This context is important for interpreting the quartile measures. Changes in the distribution of relatively low or high cost dwellings occur alongside changes to the actual price levels.

In the first year of data, 1976, the lowest 25% of house sales in Melbourne sold for $29,478 or less and the top 25% of house sales sold for $43,000 or higher. In 2009, the last full year of data, the top 25% of house sales sold for $607,500 or more and the bottom 25% of sales sold for $324,950 or less. Price points for all dwellings (i.e. including flats, units and apartments) were slightly lower. These are illustrated at Figure 2. In 1976 the lowest 25% of all dwelling sales sold for $28,875 or less and the top 25% sold for $42,700 or more. By 2009 the lowest 25% of all dwelling sales in Melbourne sold for $310,570 or less and the top 25% sold for $562,250 or more. All prices are nominal. This is appropriate given that the analysis, by definition, only compares sales within the same year.

Housing prices increased fairly sharply in the late 1980s until the recession of the early 1990s when housing prices in Melbourne stagnated in nominal terms (and therefore fell in real terms) between 1990 and 1995. Rapid price escalations have been observed since 1996. Around 30% of the total $439,990 (twelve-fold) nominal increase in the median Melbourne house price between 1976 and 2010 occurred in the period 1996 to 2001. A further 49% of this increase occurred from 2002 onwards.

Table 1: House price quartile ranges

	1976	*1996*	*2009*
Bottom Quartile	< 29,478	< 99,990	< 324,950
Second Quartile	29,478 - 35,000	99,990 - 130,950	324,950 - 419,950
Third Quartile	35,000 - 43,000	130,950 - 185,000	419,950 - 607,500
Top Quartile	43,000 <	185,000 <	607,500 <

Table 2: Dwelling price quartile ranges

	1976	*1996*	*2009*
Bottom Quartile	< 28,875	< 94,950	< 310,570
Second Quartile	28,875 - 34,750	94,950 - 126,500	310,570 - 400,000
Third Quartile	34,750 - 42,700	126-500 - 180,000	400,000 - 562,250
Top Quartile	42,700 <	180,000 <	562,250 <

Figure 1 House prices: 25th, 50th, and 75th percentile points, 1976-2010

Melbourne House Sales 1976-2010:
25th, 50th (Median) and 75th Percentile Points
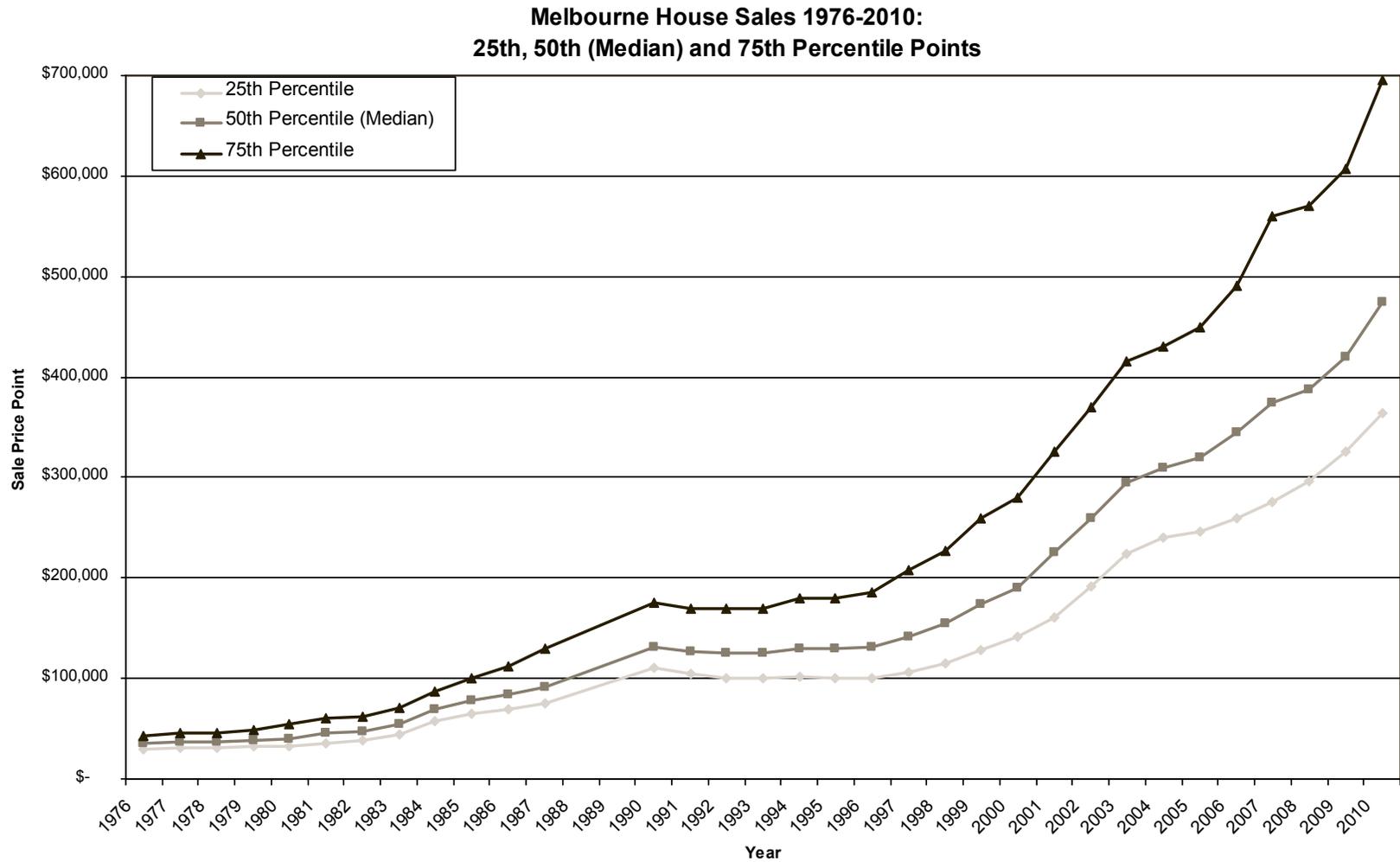
Figure 2 Dwelling prices: 25th, 50th, and 75th percentile points, 1976-2010

Melbourne Dwelling Sales 1976-2010:
25th, 50th (Median) and 75th Percentile Points
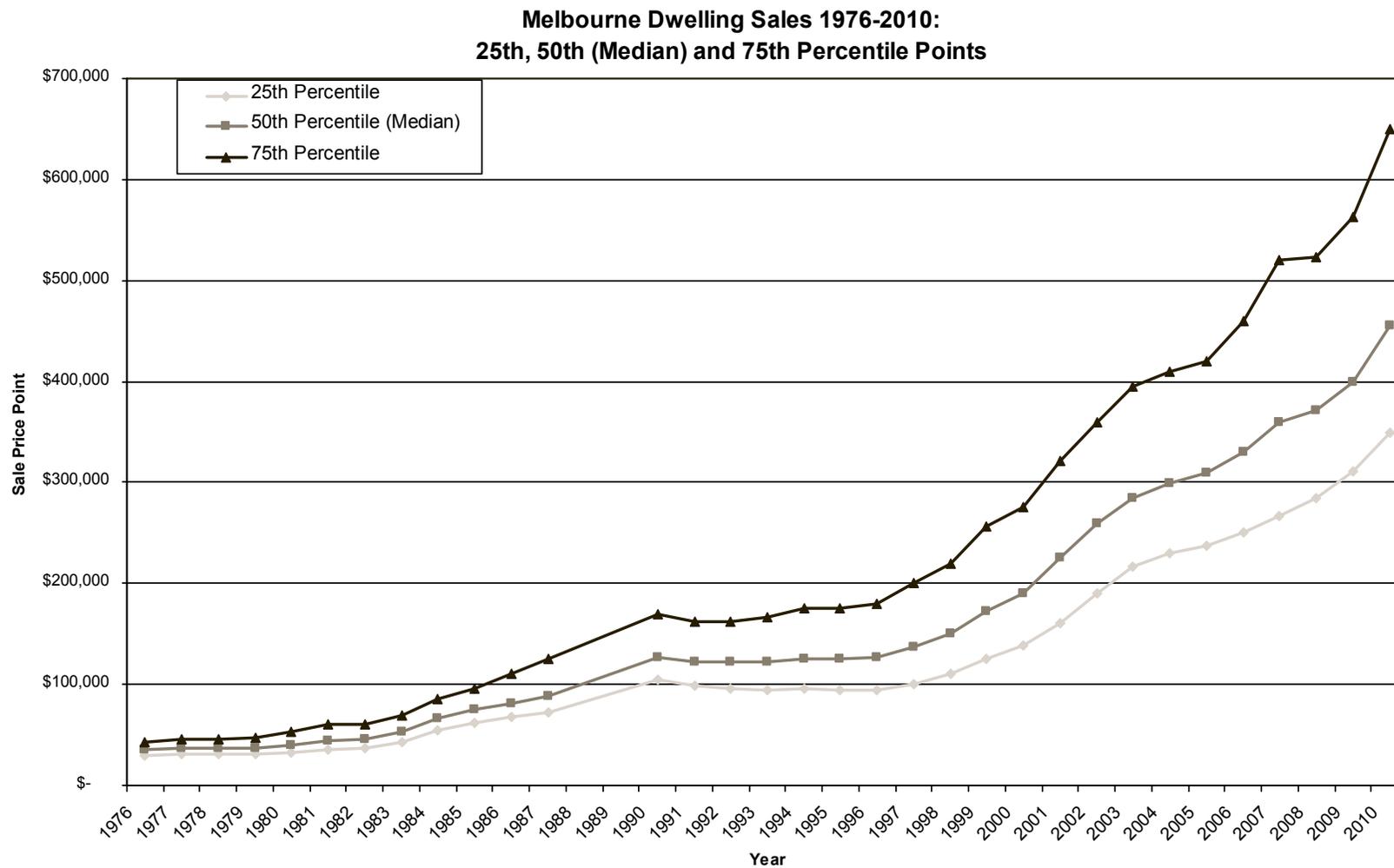
The changing distribution of lower cost housing

The maps at Figure 3 and Figure 4 show the proportions of house sales in each suburb that were in the lowest 25% of Melbourne sales at the start and end of the study period. The maps are for 1976 and 2009 (the last full year of data) respectively. The darkest shade represents suburbs where over 60% of house sales were in the lowest Melbourne price quartile. At the other end of the scale the lightest shade represents suburbs where very few if any sales - less than 5% of all sales in the suburb - were in the lowest Melbourne quartile.

The first noticeable pattern in the 1976 map is that many inner and middle suburbs to the north and west of Melbourne had very high concentrations of lower cost housing, with over 60% of their sales in the lowest Melbourne quartile. Footscray, Brunswick and Northcote were all in this category. Even Richmond as at 1976 was still a predominantly low cost suburb, with 61.1% of its sales in the lowest quartile. Many other inner and middle suburbs to the north and west – for example Coburg - had over 40% of their sales in the lowest quartile.

Another clear pattern in the 1976 map is that there were relatively few lower cost housing sales in the eastern suburbs. In the band from Ivanhoe and Templestowe through Glen Waverley and down to Brighton and Beaumaris, many suburbs had less than 5% of their house sales in the lowest price quartile. At the same time, similar numbers of suburbs in this part of Melbourne had between 5 and 20% of their sales in the lowest Melbourne price quartile. A small number – for example Oakleigh, Moorabbin, and Elwood – had between 20 and 40% of their sales in the lowest quartile. The implication is that the eastern suburbs generally had lower proportions of sales in the lowest price quartile even in 1976. However at that time the distribution was still somewhat mixed, with some suburbs in the east having moderate proportions of lower cost sales.

The map at Figure 4 shows the distribution of lowest quartile house sales over three decades later, in 2009. Looking at this map there are some dramatic points of difference to 1976: *some things change*. The most striking pattern is that by 2009 nearly all the inner and middle suburbs of Melbourne had only negligible proportions of house sales in the lowest price quartile. There is a clear contrast between the inner and middle ring of suburbs, with very few low cost sales; and the growth areas and peri-urban regions on the urban fringe where lower cost sales are predominantly concentrated. In 2009 there were very few opportunities to buy houses in the lowest Melbourne price quartile (in this context, for $324,950 or less) within a region extending roughly 10 kilometres from the CBD to the western and northern suburbs, and further – around 20 kilometres – to the eastern suburbs. Nearly all suburbs in this region had less than 5% of their sales in the lowest cost quartile for Melbourne. These suburbs also had comparatively few sales in the middle price quartiles. Overall, the proportion of house sales in the inner region of Melbourne in the lowest price quartile dropped from 35.7% in 1976 to 2.3% in 2009.

An increasing homogeneity of sales, the result of which is that essentially all sales in the inner and middle ring are in the top price quartile, is observed over the study period. This homogeneity is also seen in the reverse in many fringe and peri-urban areas. In areas like Melton and Werribee, low cost sales account for increasingly large proportions of sales. By implication there appear to be fewer suburbs with moderate proportions of sales in the lowest price quartile. For example, Werribee had 15.4% of its sales in the lowest quartile in 1976; this had increased to 76.7% in 2009.

Going in the other direction, Clayton had 28.5% in 1976, but this dropped to only 1.8% in 2009.

Three main trends over the study period account for the dramatic changes in the distribution of lower cost housing between 1976 and 2009. Firstly, suburbs to the north and west of Melbourne experienced successive waves of gentrification. Looking along train and tram lines to the north, there were progressive decreases in the proportions of lower cost housing found in formerly low cost suburbs such as Brunswick and Northcote. This process was particularly apparent in the northern suburbs throughout the 1990s. In the west, for example in Footscray, a similar pattern was seen but at a later time, with gentrification more apparent in the 2000s.

Other suburbs moved in the opposite direction. Many aging subdivisions on the urban fringe had increasing proportions of lower cost housing. Finally, a trend contributing to the 'hollowing out' of lower priced sales from Melbourne's inner and middle ring suburbs was that areas that already had very low proportions of sales in the lowest quartile saw this comparative scarcity amplified over time. These trends each contribute to an understanding of the changing location of Melbourne's lower cost housing, and are explored in detail later in this report.

The period 1996 to 2001 was particularly noticeable as a period of change in the distribution of lower cost housing. The spatial divisions between inner and outer suburbs became much more concentrated over this period. This period also saw sharp increases in housing prices across Melbourne.

Figure 3 Lowest quartile house sales, 1976

Houses Sales, 1976
% of Suburb in Lowest Quartile

- 60 to 100%
- 40 to 60%
- 20 to 40%
- 5 to 20%
- 0 to 5%

Insufficient data

• Train stations

Figure 4 Lowest quartile house sales, 2009

Houses Sales, 2009
% of Suburb in Lowest Quartile
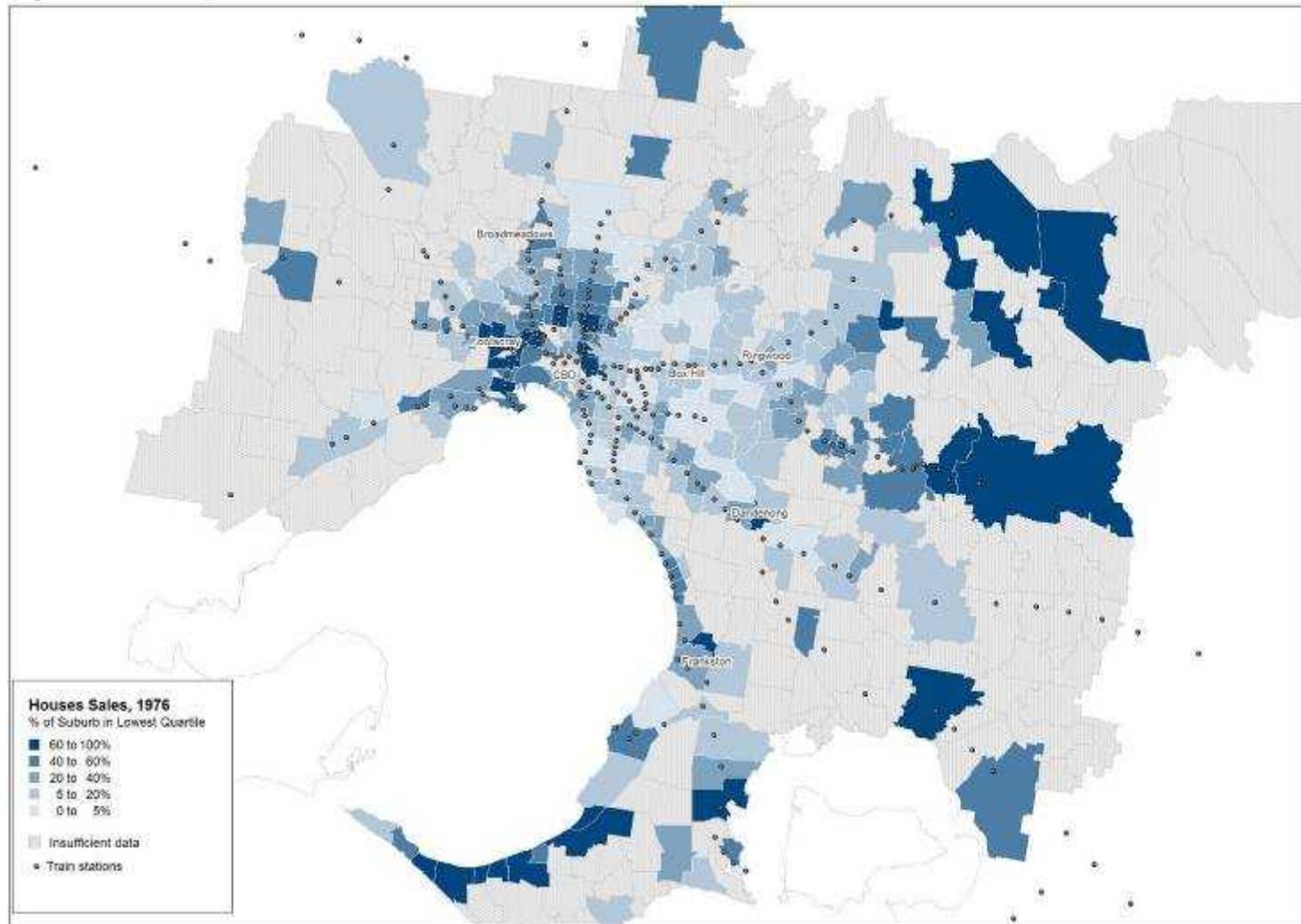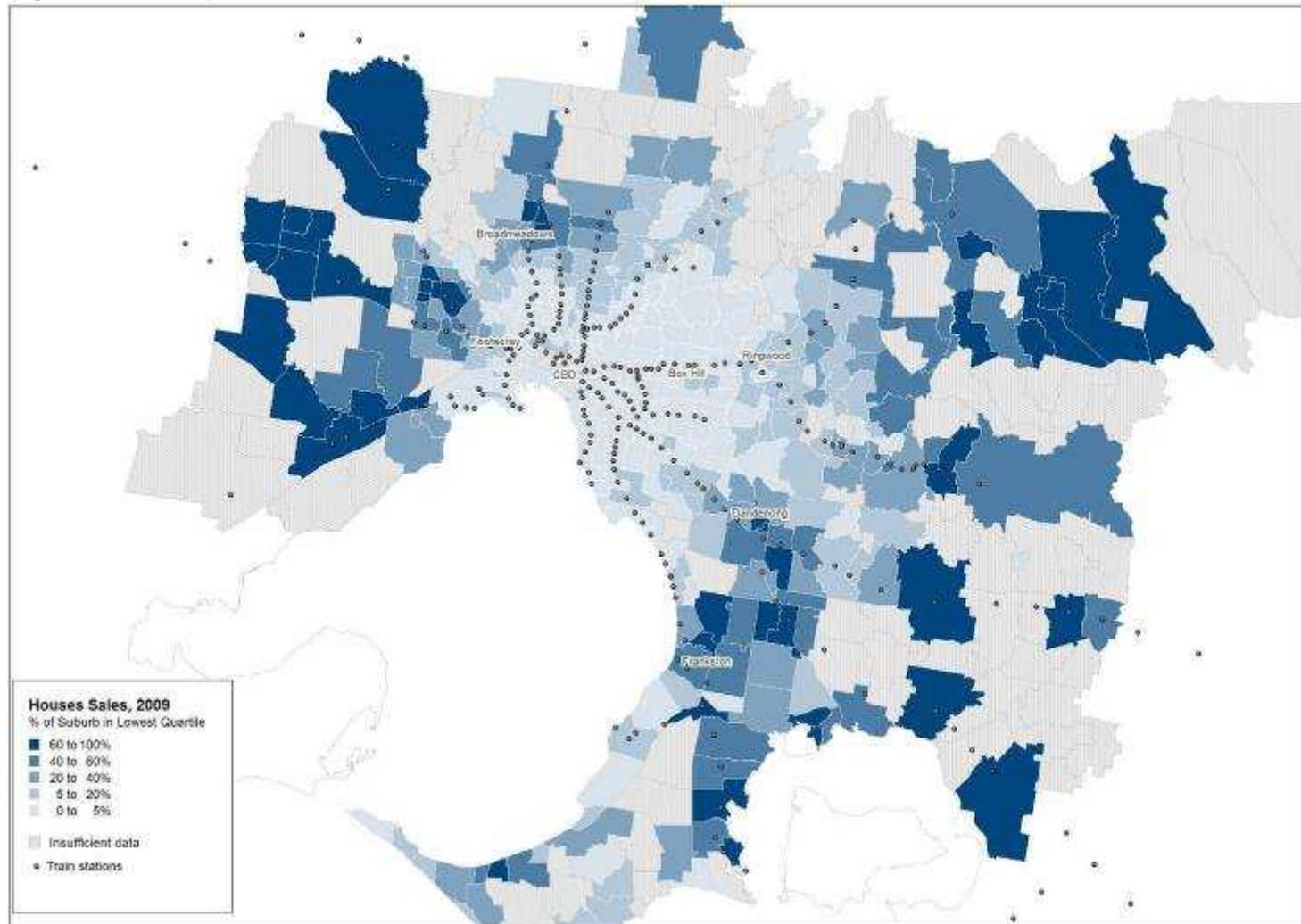- 60 to 100%
- 40 to 60%
- 20 to 40%
- 5 to 20%
- 0 to 5%

Insufficient data

• Train stations

The changing distribution of higher cost housing

The maps at Figure 5 and Figure 6 show the proportions of house sales in each suburb that were in the *highest* 25% of Melbourne sales in 1976 and 2009 respectively. What is highlighted is effectively the opposite end of the housing market to the last pair of maps. The darkest shade (of red) represents suburbs where over 60% of house sales were in the highest Melbourne price quartile. At the other end of the scale the lightest shade represents suburbs where very few if any sales - less than 5% of all sales in the suburb - were in the highest Melbourne quartile.

The map at Figure 5 shows the distribution of higher cost house sales in 1976. The first thing that is apparent is that some housing market trends **stay the same**: the more desirable parts of Melbourne have been relatively constant. In the east around Toorak, Camberwell and Brighton and through to Doncaster and Templestowe, many suburbs in 1976 had over 60% of their house sales in the highest 25% of sales for Melbourne. The concentrations of high cost sales around Doncaster and Templestowe are particularly clear in this map. Suburbs to the east and south east are slightly more mixed, with moderate to high proportions of sales in the top quartile. For example, Hawthorn had 54.1% of its sales in the top quartile in 1976. By contrast, suburbs to the north and west of Melbourne mostly had less than 10% and often less than 5% in the top quartile.

The map at Figure 6 shows the distribution of highest quartile house sales over three decades later, in 2009. This map is not completely dissimilar to the earlier map. Some things stay the same: higher cost areas to the east are still higher cost. What is apparent, however, is the sharper contrast between the inner and middle suburbs and the outer suburbs. This is the reverse of the patterns shown in lowest quartile sales shown in Figure 4. Extending around 20 kilometres from the CBD to the east, in 2009 nearly all suburbs had more than 60% of their sales in the top quartile for Melbourne (meaning $607,500 or higher). The same is true of most of the gentrified ring of inner and middle ring suburbs to the north and west, extending about 10 kilometres from the CBD. By 2009 nearly all house sales in the inner and eastern suburbs were in the top 25% of sales, with few opportunities in the lower or middle price ranges.

The 2009 map perhaps understates this effect in that, for a large number of suburbs, the proportions of sales in the top quartile were not just above 60% but over 80% or 90%. In Camberwell, for example, 94.5% of house sales in 2009 were in the highest Melbourne price quartile. As with the lower priced sales, the period 1996 to 2001 saw the more dramatic shifts in the distribution of higher cost sales.

Figure 5 Highest quartile house sales, 1976

House Sales, 1976
% of Suburb in Highest Quartile
- 60 to 100
- 40 to 60
- 20 to 40
- 5 to 20
- 0 to 5

Insufficient data
• Train stations

Figure 6 Highest quartile house sales, 2009

House Sales, 2009
% of Suburb in Highest Quartile

- 60 to 100
- 40 to 60
- 20 to 40
- 5 to 20
- 0 to 5

Insufficient data

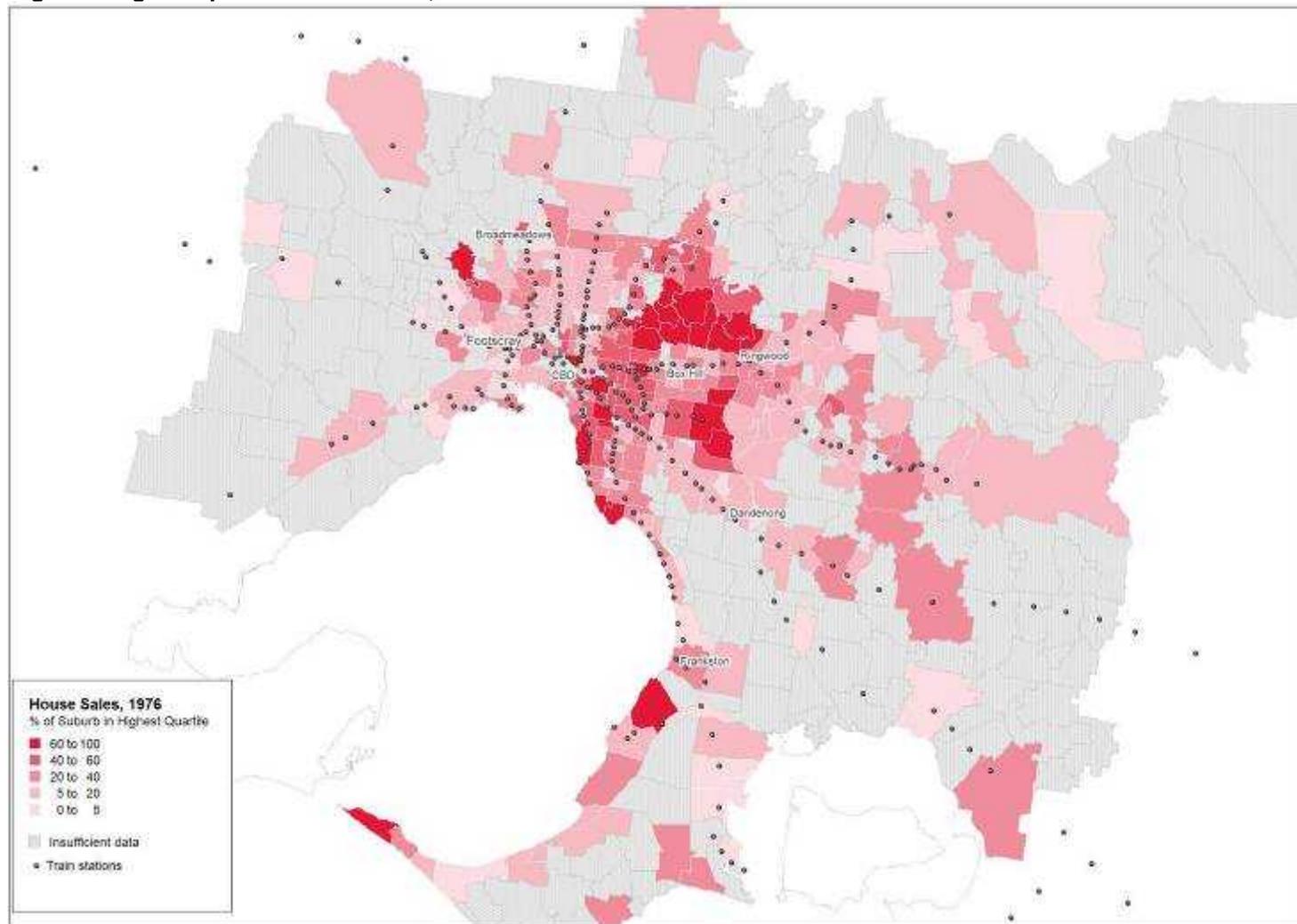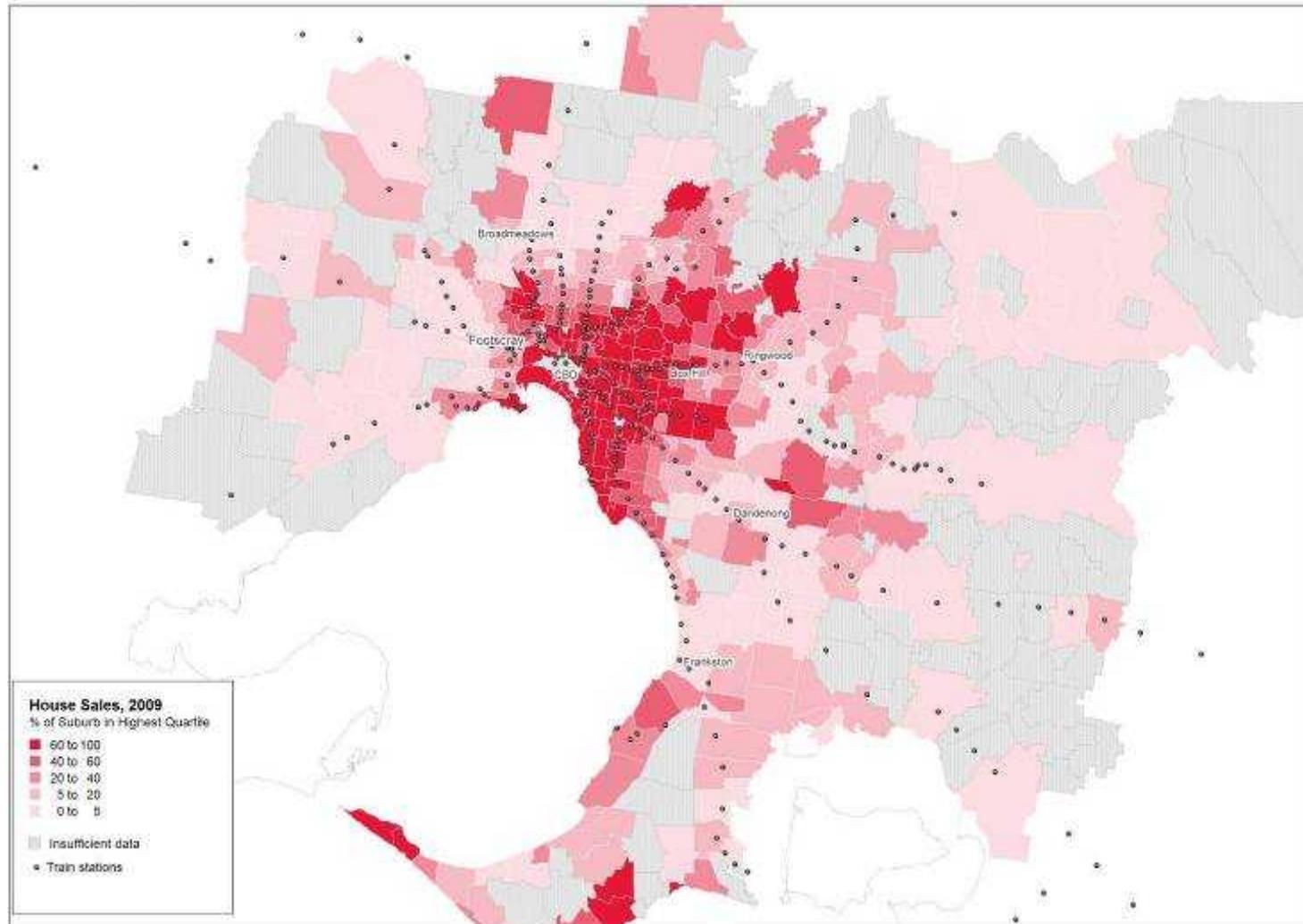• Train stations

Gentrified suburbs

Themes

Many of Melbourne's lower priced suburbs have historically been located in the inner western and northern suburbs. However, many of these suburbs have experienced waves of gentrification. These trends are evident from the changing distributions of relatively low and relatively high cost housing.

Looking over the period 1976 to 2010, gentrified suburbs have seen rapid decreases in their proportions of lowest quartile sales, and corresponding increases in higher quartile sales. In Melbourne's housing market *some things change*: once low cost suburbs have become predominantly high cost. These changes are quite dramatic. Gentrification is a process, and tends to be more about timing and stages than about a distinct shift. Suburbs tend to move through stages, and often each stage of price increases sees the displacement of earlier groups. This means that a suburb may be referred to as gentrifying, or as having been gentrified, over the course of several decades.

The process of gentrification was already underway in some inner suburbs by the start of the study period. By 1976 the former 'slum' areas of Carlton and Fitzroy did not have disproportionately high proportions of low cost housing, with 23.4% and 37.2% respectively. Urban renewal programs in these suburbs in the 1960s had been based on government concern about population losses and low housing standards. By the 1970s there was strong public resistance to the redevelopment programs, with much of this resistance coming from the gentrifying population. The earlier gentrifying suburbs have gone from being lower to middle in cost in the 1970s and early 1980s, to being at the highest end of Melbourne prices through most of the 2000s.

In other areas, such as Brunswick and Northcote in the north, gentrification began to be noticeable in the late 1980s and was particularly apparent in the 1990s. In the western suburbs, suburbs like Footscray saw some decreases in lower cost housing in the 1990s, but with these patterns much sharper later on through 1996 to 2001 and 2001 onwards. In all cases, the same steep drop in the proportion of sales in the lowest quartile is seen, but at differing points of time. This is illustrated at Figure 6, which shows the decrease in lowest quartile sales for examples of gentrified suburbs.

The shift of these suburbs through different price types (low to middle to high) is also set out at Table 3. The criteria used to categorise suburbs are set out in the Appendix. The "lowest cost" suburbs have more than 70% of their sales in the lowest quartile, and "highest cost" suburbs have more than 70% of their sales in the top quartile. In terms of timing, a good example is to consider Williamstown, Newport, Yarraville and Footscray. These suburbs, located along the same south west corridor of Melbourne, began gentrifying at different points.

Examples

Brunswick has traditionally been home to lower to middle cost housing. As in many other inner northern and western suburbs, however, gentrification has altered the housing market in Brunswick. This pattern of gentrification was particularly apparent during the 1990s.

As shown at Figure 8, in 1976, 65.9% of house sales in Brunswick were in the lowest Melbourne price quartile. This percentage dropped to 51.3% by 1986, then to 27.6% in 1991 and to only 9.7% in 1996. Since 2001, only a very small proportion (less than 5%) of Brunswick house sales has been in the lowest price quartile. There are also very few opportunities in the second quartile of sales.

Along with the decrease in relatively lower cost sales, Brunswick has experienced a corresponding strong increase in the proportion of house sales in the top Melbourne quartile. Whereas in 1976 only 5.4% of Brunswick house sales were relatively high cost, this percentage increased to 14.5% in 1996 and to 30.3% in 2001. In 2009 and 2010 over half (50.2% and 51.7% respectively) of house sales in Brunswick were in the top quartile for Melbourne. Since 2007, over 90% of house sales in Brunswick have been in the top two Melbourne price quartiles.

Other examples include Richmond and Footscray. House sale trends in Richmond are illustrated at Figure 9. Richmond experienced rapid reduction in lower cost sales during the 1980s. The majority (75.3%) of sales in Richmond are now in the top Melbourne price quartile. As a final example, house sale trends in Footscray are illustrated at Figure 10. Through the earlier parts of the study period over 75% of house sales in Footscray were in the lowest Melbourne price quartile. This dropped off from 1996 onwards, to 3.8% in 2009. Most (63.2%) house sales in Footscray are in the third quartile of Melbourne prices.

Figure 7: Example gentrified suburbs: percentage of house sales in lowest quartile

Example Gentrified Suburbs:
% of House Sales in Lowest Melbourne Quartile, 1976-2009

Legend:
- Footscray
- Yarraville
- Newport
- Brunswick
- Coburg
- Northcote
- Ascot Vale
- Port Melbourne
- Richmond
- Williamstown

Y-axis: Lowest Quartile House Sales (% of Suburb)

X-axis years: 1976, 1981, 1986, 1991, 1996, 2001, 2006, 2009
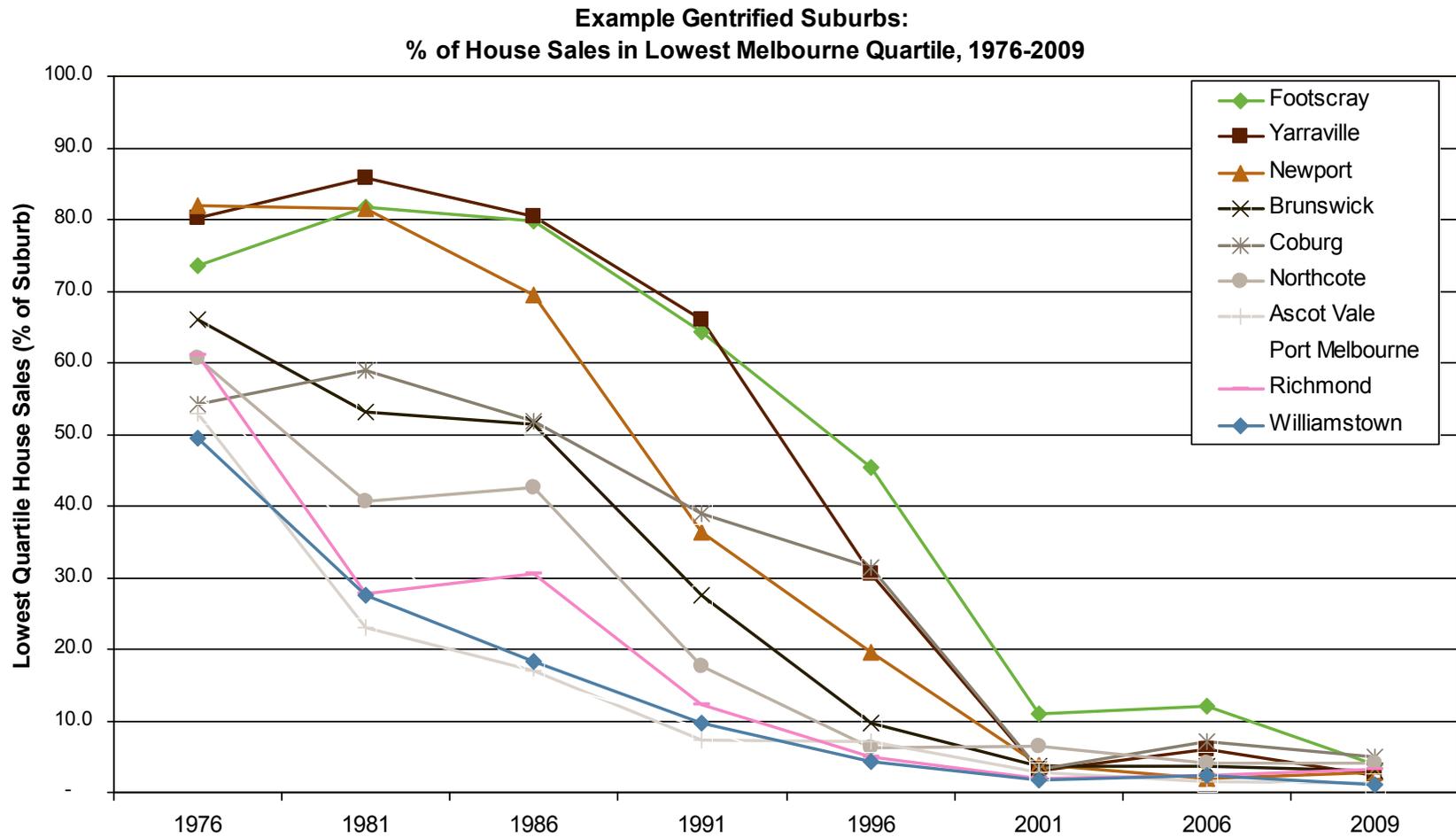
Table 3: Example gentrified suburbs - housing price type by year

Suburb	1976	1981	1986	1991	1996	2001	2006	2009
Footscray	Lowest	Lowest	Lowest	Low-Middle	Low-Middle	Middle	Middle	Middle-High
Yarraville	Lowest	Lowest	Lowest	Low-Middle	Low-Middle	Middle-High	Middle-High	Middle-High
Newport	Lowest	Lowest	Low-Middle	Low-Middle	Middle	Middle-High	Middle-High	Middle-High
Kensington	Lowest	Low-Middle	Low-Middle	Middle	Middle	Middle-High	Middle-High	Middle-High
Brunswick	Low-Middle	Low-Middle	Low-Middle	Middle	Middle	Middle-High	Middle-High	Middle-High
Coburg	Low-Middle	Low-Middle	Low-Middle	Low-Middle	Middle	Middle-High	Middle	Middle-High
Northcote	Low-Middle	Low-Middle	Mixed	Middle	Middle	Middle-High	Middle-High	Middle-High
Ascot Vale	Low-Middle	Middle	Middle	Middle	Middle-High	Middle-High	Middle-High	Middle-High
Port Melbourne	Low-Middle	Middle	Middle	Middle-High	Highest	Highest	Highest	Highest
Richmond	Low-Middle	Middle	Middle	Middle	Middle-High	Middle-High	Middle-High	Highest
Williamstown	Mixed	Middle	Middle	Middle-High	Middle-High	Highest	Highest	Highest

Figure 8: Brunswick: percentage of house sales by Melbourne quartile

Brunswick:
Percentage of House Sales by Melbourne House Price Quartile
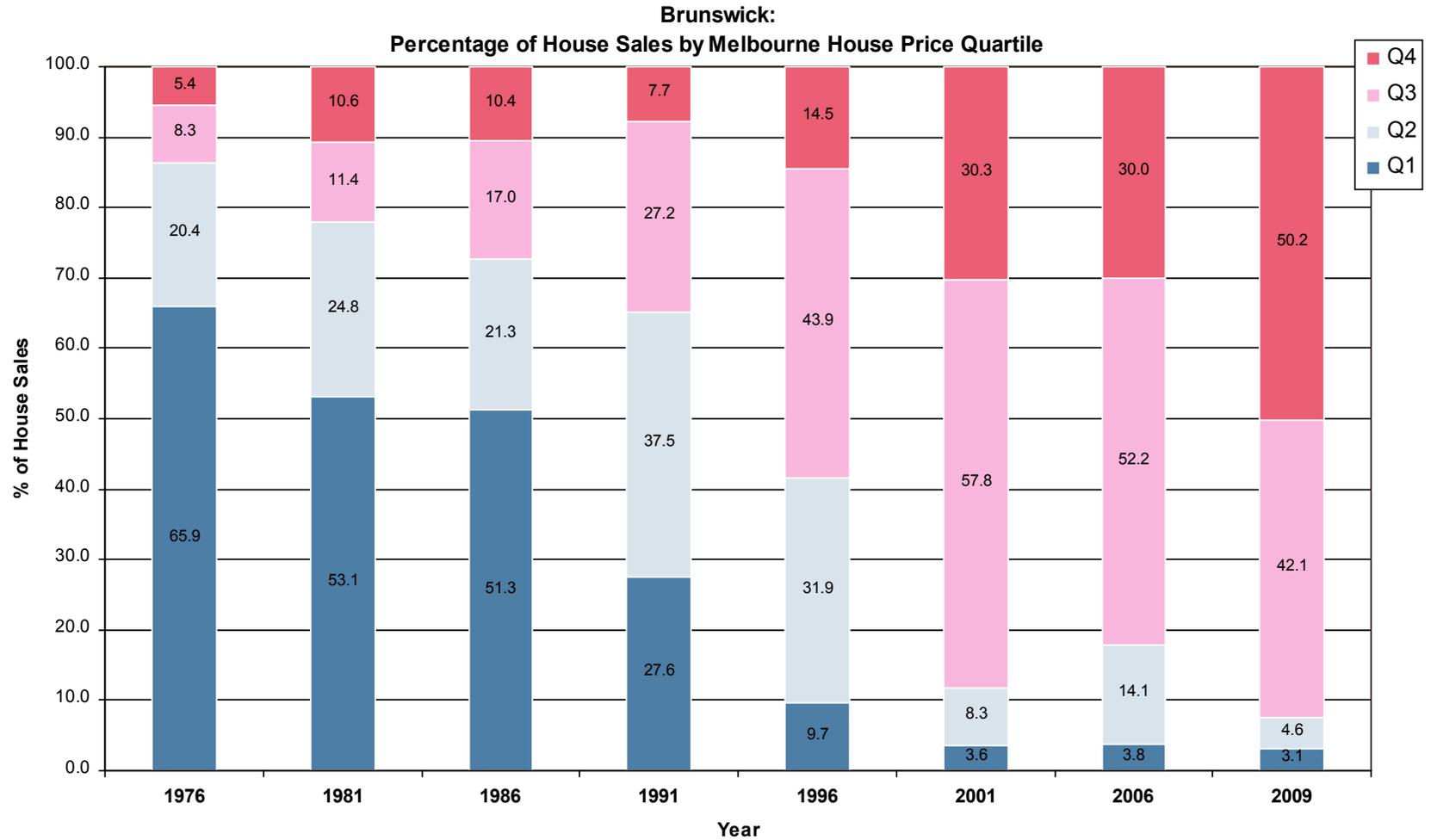
Figure 9: Richmond: percentage of house sales by Melbourne quartile

Richmond:
Percentage of House Sales by Melbourne House Price Quartile
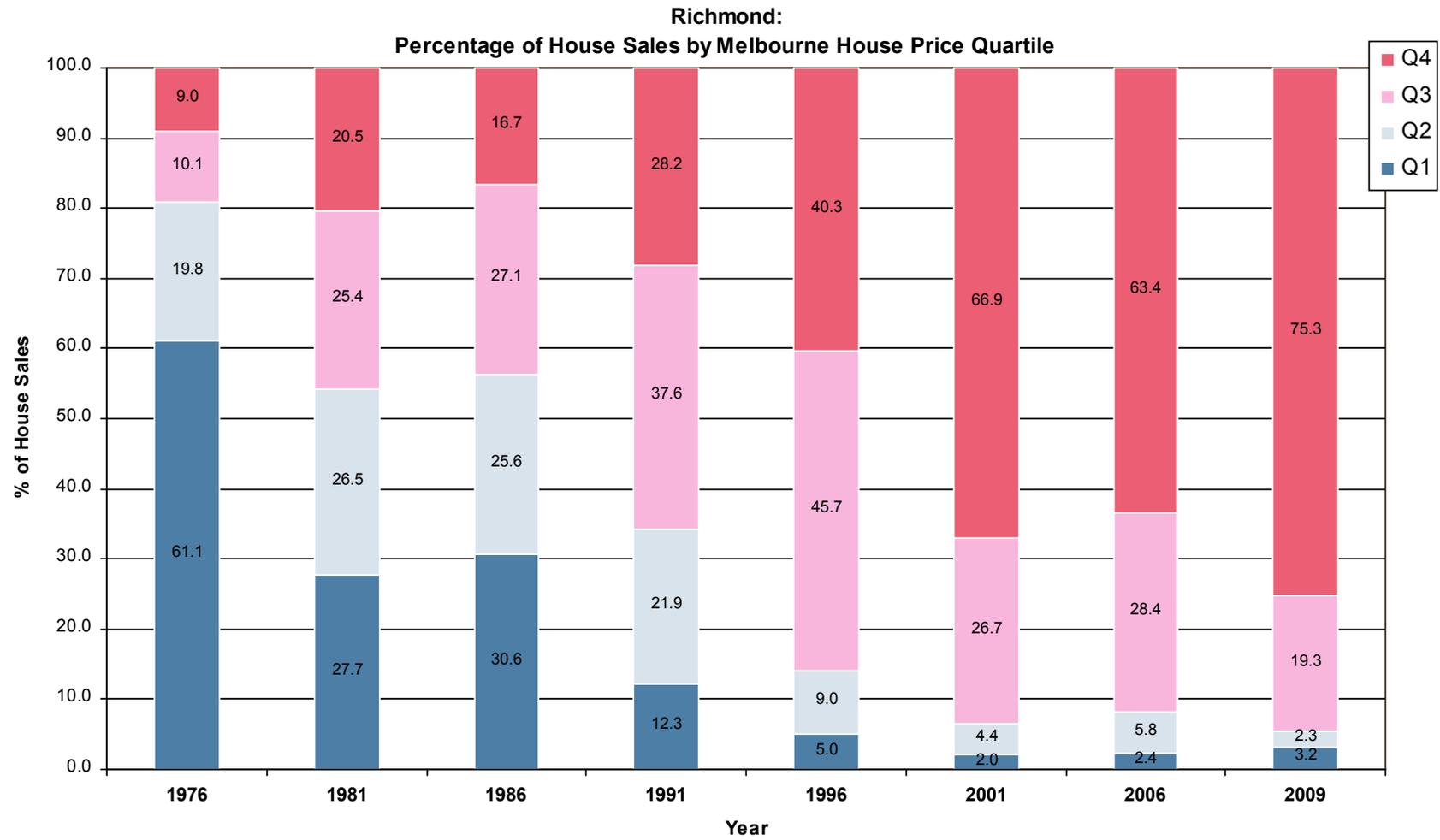
Figure 10: Footscray: percentage of house sales by Melbourne quartile

**Footscray:
Percentage of House Sales by Melbourne House Price Quartile**

Year	Q1	Q2	Q3	Q4
1976	73.5	13.7	5.5	7.3
1981	81.7	9.6	7.1	1.5
1986	79.9	10.9	5.7	3.4
1991	64.3	23.5	7.8	4.3
1996	45.3	33.9	16.8	4.0
2001	10.9	38.8	40.2	10.1
2006	12.1	43.1	35.9	8.9
2009	3.8	15.1	63.2	18.0
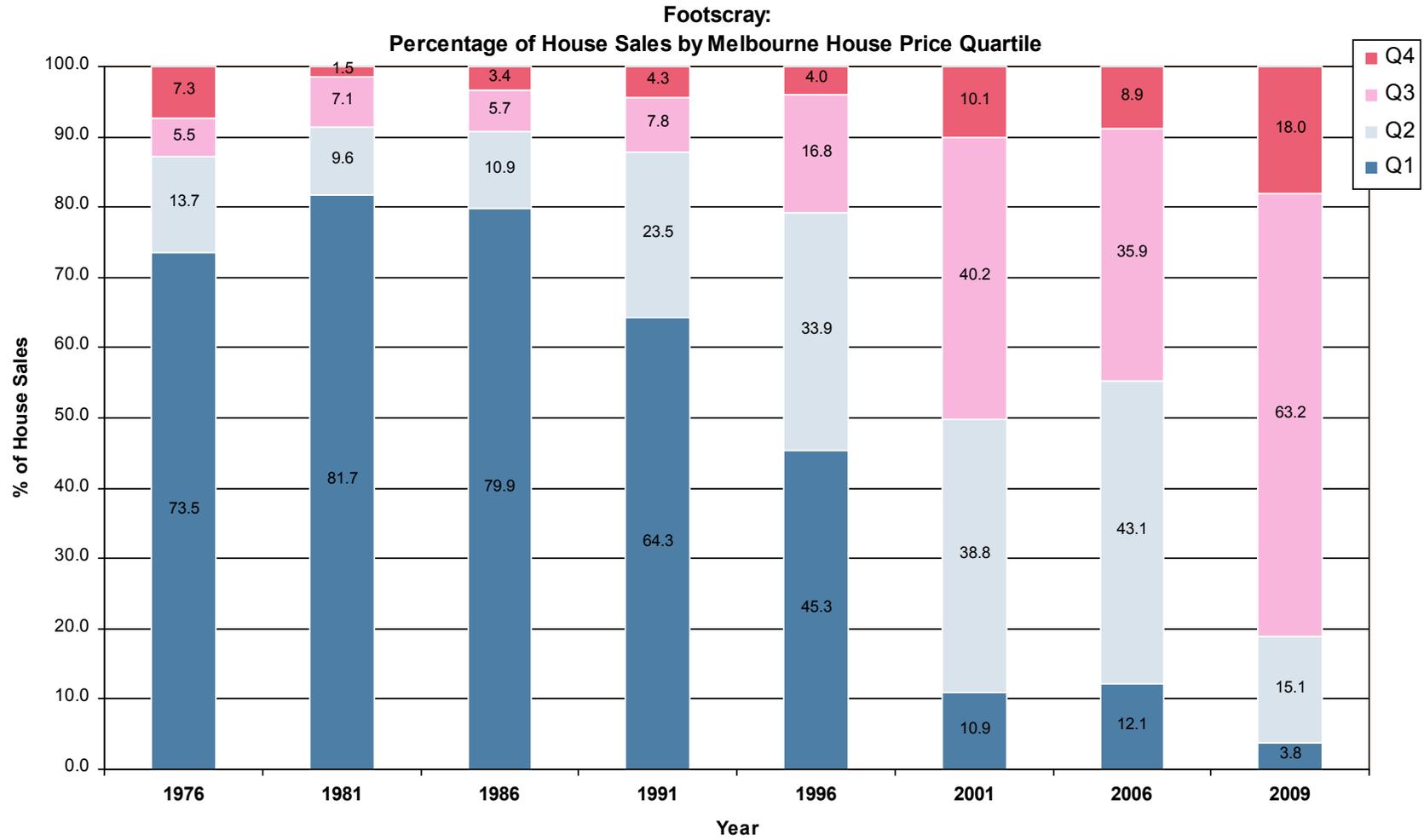
Filtering down of suburbs

Themes

Although sales in the inner and middle suburbs are increasingly concentrated in the higher Melbourne price quartiles, in other areas of Melbourne suburbs have experienced the opposite trend and have become (relatively) more affordable over time. This does not mean that their housing prices have actually decreased – it indicates that these suburbs that have increasing proportions of their sales in the lower price quartiles, relative to Melbourne prices overall.

Many suburbs with increasing proportions of low cost housing are areas that were subdivided relatively recently. Typically, areas in Melbourne that were subdivided 2 or 3 decades ago are now home to very high and increasing proportions of relatively low cost housing. These suburbs sometimes began as middle cost, with higher prices paid for newly constructed housing. The housing's features become less desirable over time. Such trends fit with the housing market theory of 'filtering', wherein newly constructed housing drops down through different price segments over time (Skaburskis, 2006). Potentially, suburbs that filter down in price time over time may experience the reverse trend in the long term, through renovation and gentrification.

Examples

Hampton Park in Melbourne's south east was initially developed through the late 1970s and early 1980s. It began as a mixed price suburb. The largest proportions of house sales in the 1970s and 1980s were in the second Melbourne price quartile, with 46.9% of sales in 1981 (Figure 11). Until 1986 there were some sales in Hampton Park in the higher Melbourne price quartiles. Over time, the proportion of sales in the lowest quartile increased to be the majority of sales. By 2006, 84.4% of house sales in Hampton Park were in the lowest quartile for Melbourne.

House sale trends for Narre Warren are shown at Figure 12. Narre Warren was developed mainly through the 1990s and early 2000s. Since this time, sales in the top two Melbourne price quartiles have decreased. Sales in the lowest price quartile now make up 50.1% of house sales in the suburb.

Roxburgh Park to the north of Melbourne is a newer suburb, with the main development period in the late 1990s and 2000s. Roxburgh Park seems to be following similar price patterns to suburbs developed in earlier decades. Figure 13 indicates that the proportion of Roxburgh Park sales in the top price quartiles has decreased and that the proportion of sales in the lowest price quartile has increased, from 16.8% in 2001 to 41.2% in 2009.

Figure 11: Hampton Park: percentage of house sales by Melbourne quartile

Hampton Park:
Percentage of House Sales by Melbourne House Price Quartile

Figure 12: Narre Warren: percentage of house sales by Melbourne quartile
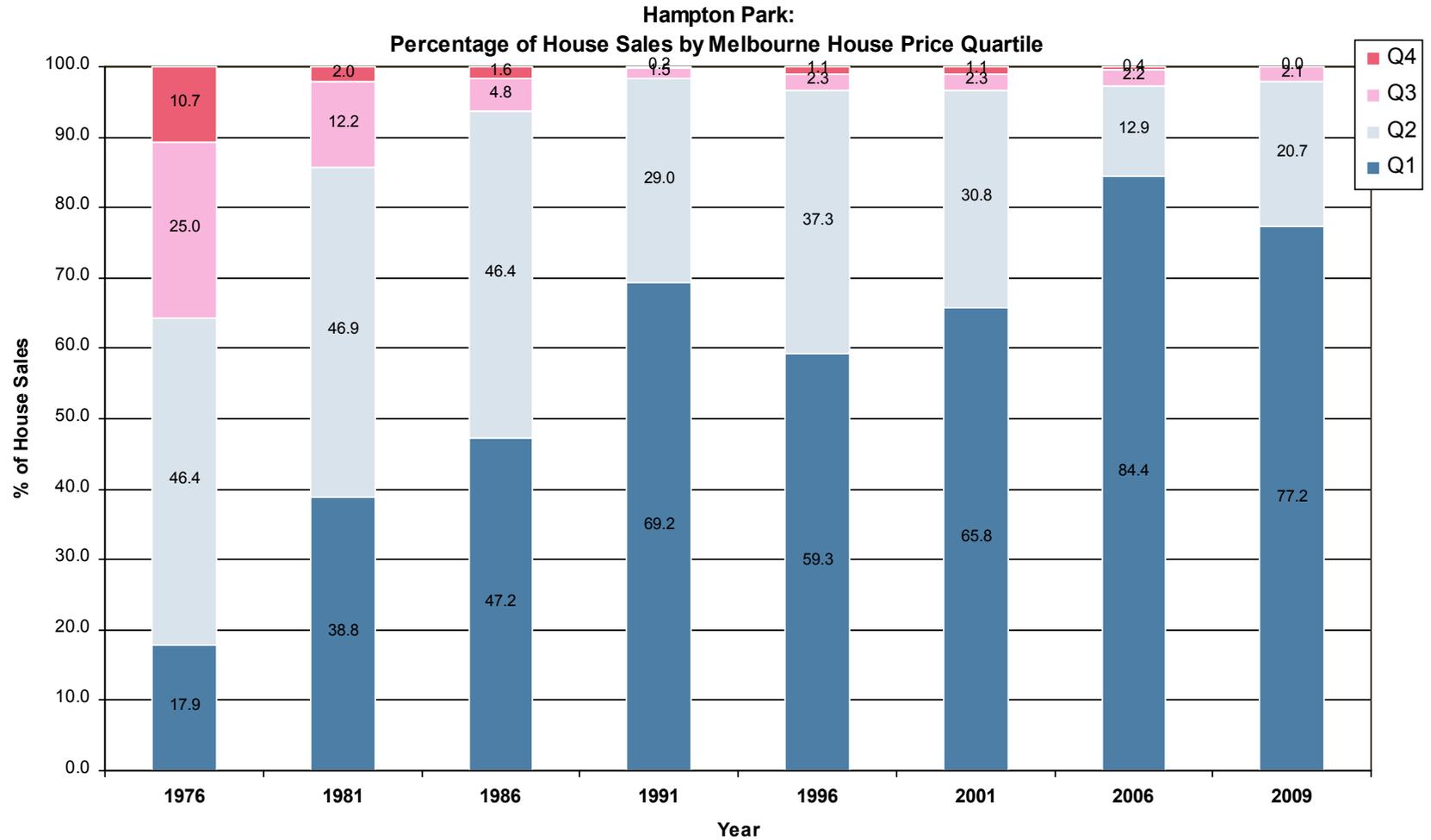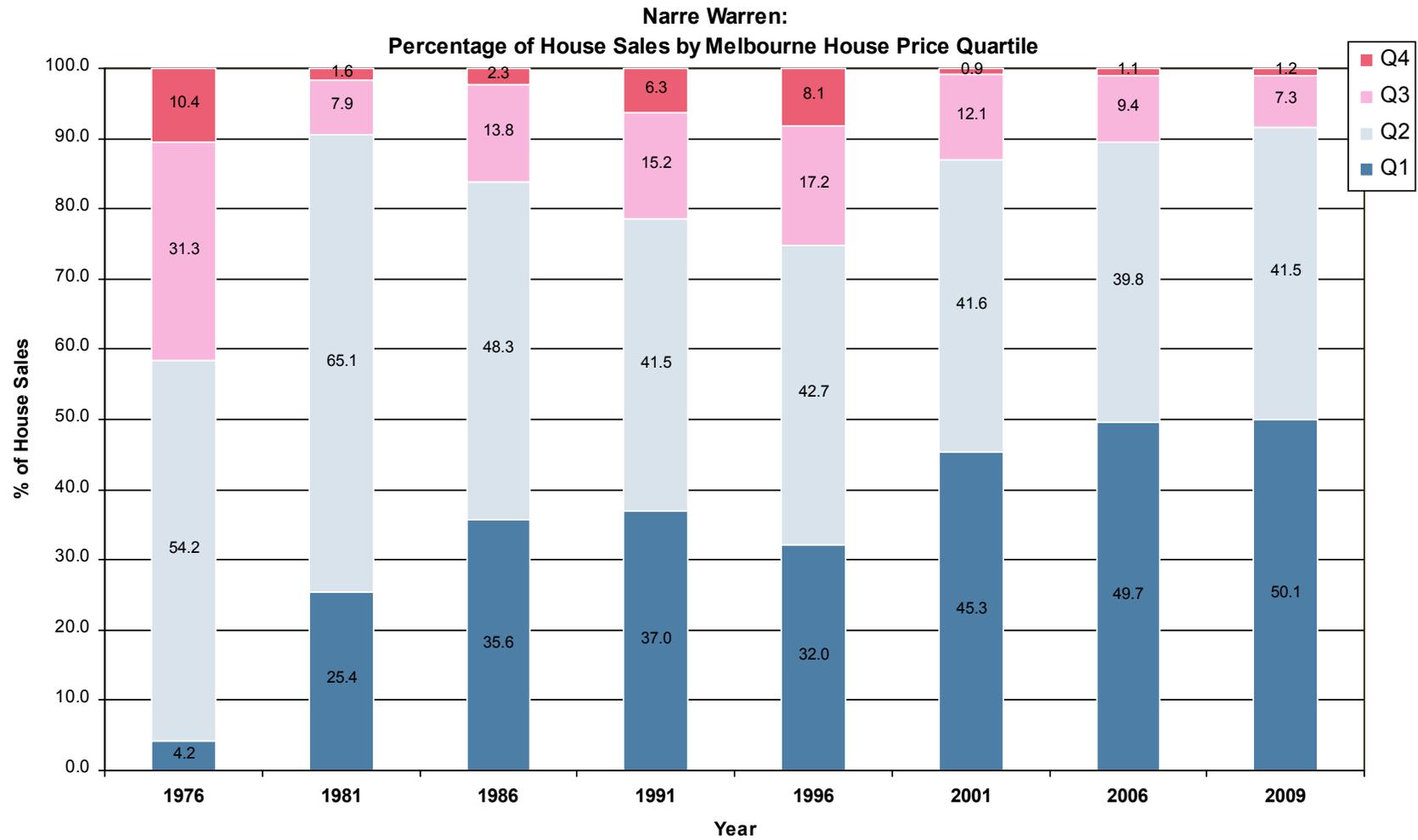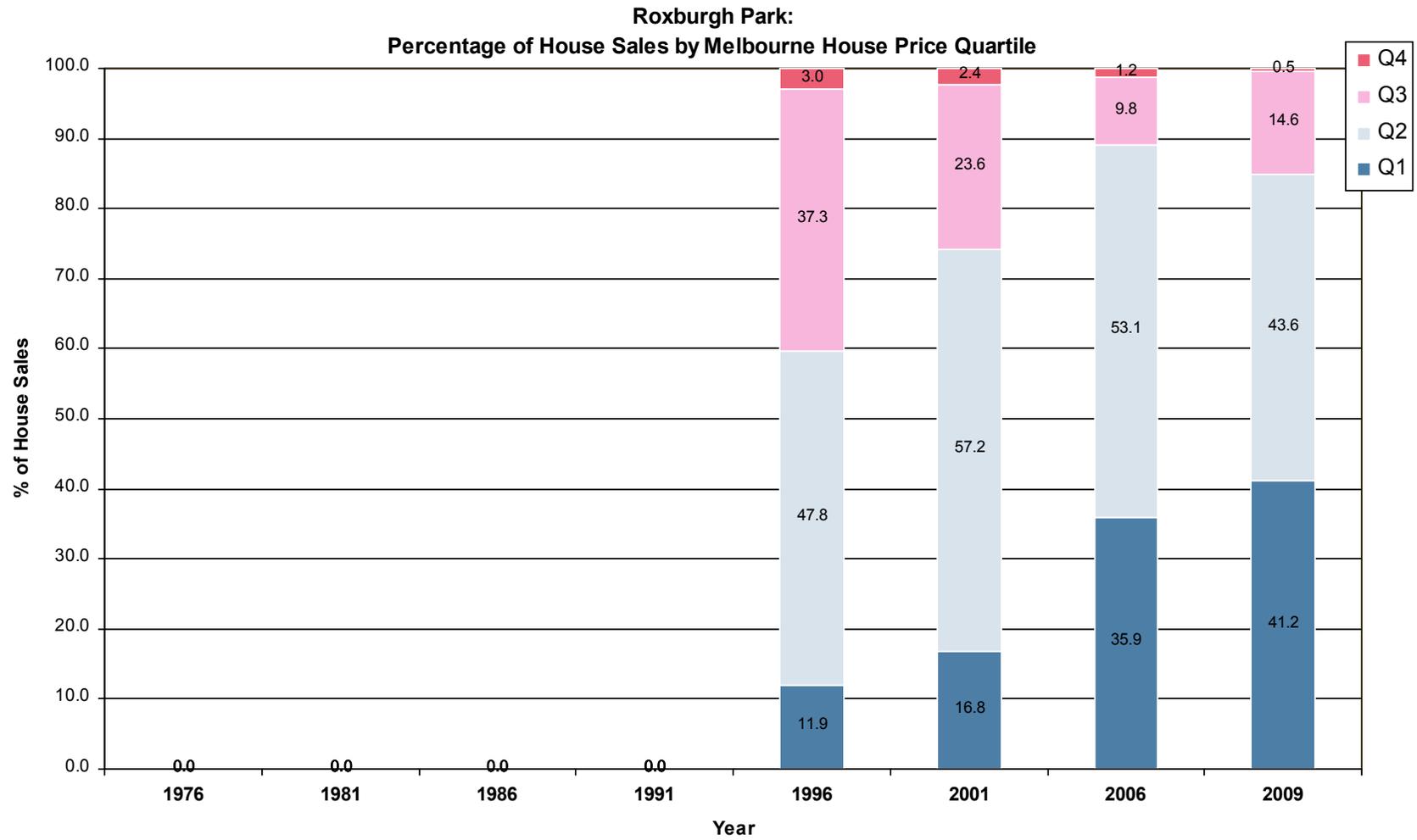

Narre Warren:
Percentage of House Sales by Melbourne House Price Quartile

Figure 13: Roxburgh Park: percentage of house sales by Melbourne quartile

Roxburgh Park:
Percentage of House Sales by Melbourne House Price Quartile

Higher priced suburbs – increasing homogeneity

Themes

The preceding maps of relatively low cost and relatively high cost housing sales have shown that some parts of Melbourne have always had been relatively expensive. It is worth remembering that other things in Melbourne's housing market **stay the same**. Traditionally, higher cost suburbs have been located in the inner and middle eastern suburbs – with a strong demand for the region through Ivanhoe, Glen Waverley, Armadale, and Brighton.

For these higher cost suburbs, the key trend to emerge over the study period is that their housing markets have become increasingly homogenous over time. Sales have become increasingly concentrated only in the top Melbourne price quartile. This trend is illustrated at Figure 14, which graphs some examples of suburbs in eastern Melbourne that have always had relatively few low cost housing sales. These include Balwyn, Glen Iris, Brighton and Camberwell.

All of these suburbs have had less than 10% of their sales in lowest Melbourne price quartile since at least 1976. In this sense the accessibility of these suburbs has not changed over time. Many of these suburbs, however, had in the past had large shares of their sales in the middle price quartiles (quartiles 2 and 3). Particularly from 1996 onwards, their sales have been increasingly concentrated only in the top price quartile. The graph shows the proportion of sales in the example suburbs that were in the highest 25% of Melbourne prices. By 2009, all of these suburbs had over 90% of their house sales in the top quartile ($607,500 or more).

Examples

Through its history Camberwell has consistently been an area of comparatively high cost housing. In this sense, the housing market in Camberwell has changed relatively little over the study period since 1976. In 1976, 57.3% of houses in Camberwell were in the top Melbourne quartile. This figure increased to 86.9% by 1991 and to 94.5% in 2009 (Figure 15).

As Camberwell has become increasingly higher cost relative to the rest of Melbourne, the corresponding trend has been a disappearance of sales in the second and, more noticeably, third price quartile. In 1976, 27.4% of Camberwell houses sold in the third quartile and 12.1% in the second quartile. As recently as 1996, some (9.5%) house sales in Camberwell were in the third quartile of housing prices. By 2009 this percentage was negligible, at 3.0%.

House sale trends for the beachside suburb of Sandringham are illustrated at Figure 16. In 1976 Sandringham was a relatively mixed suburb in terms of housing prices, although with most sales in the top two quartiles (each accounting for 35.8% of sales). However the proportion of sales in the top Melbourne price quartile increased consistently over time, to 70.7% in 1991 and to 85.5% in 2001. By 2009, essentially all (95.6%) sales in Sandringham were in the top Melbourne price quartile.

House sales for Toorak are shown at Figure 17. Toorak, traditionally Melbourne's most expensive suburb, shows a slightly different story to other higher priced suburbs in that sales in the Toorak have always been exclusively in the top price quartile. This

homogeneity has essentially not changed over time. In 1976, 94.3% of Toorak sales were in the top quartile. In all other years the proportion was over 97%.

Figure 14: Example higher priced suburbs: percentage of house sales in top quartile

Example Higher Cost Suburbs:
% of House Sales in Highest Melbourne Quartile, 1976-2009

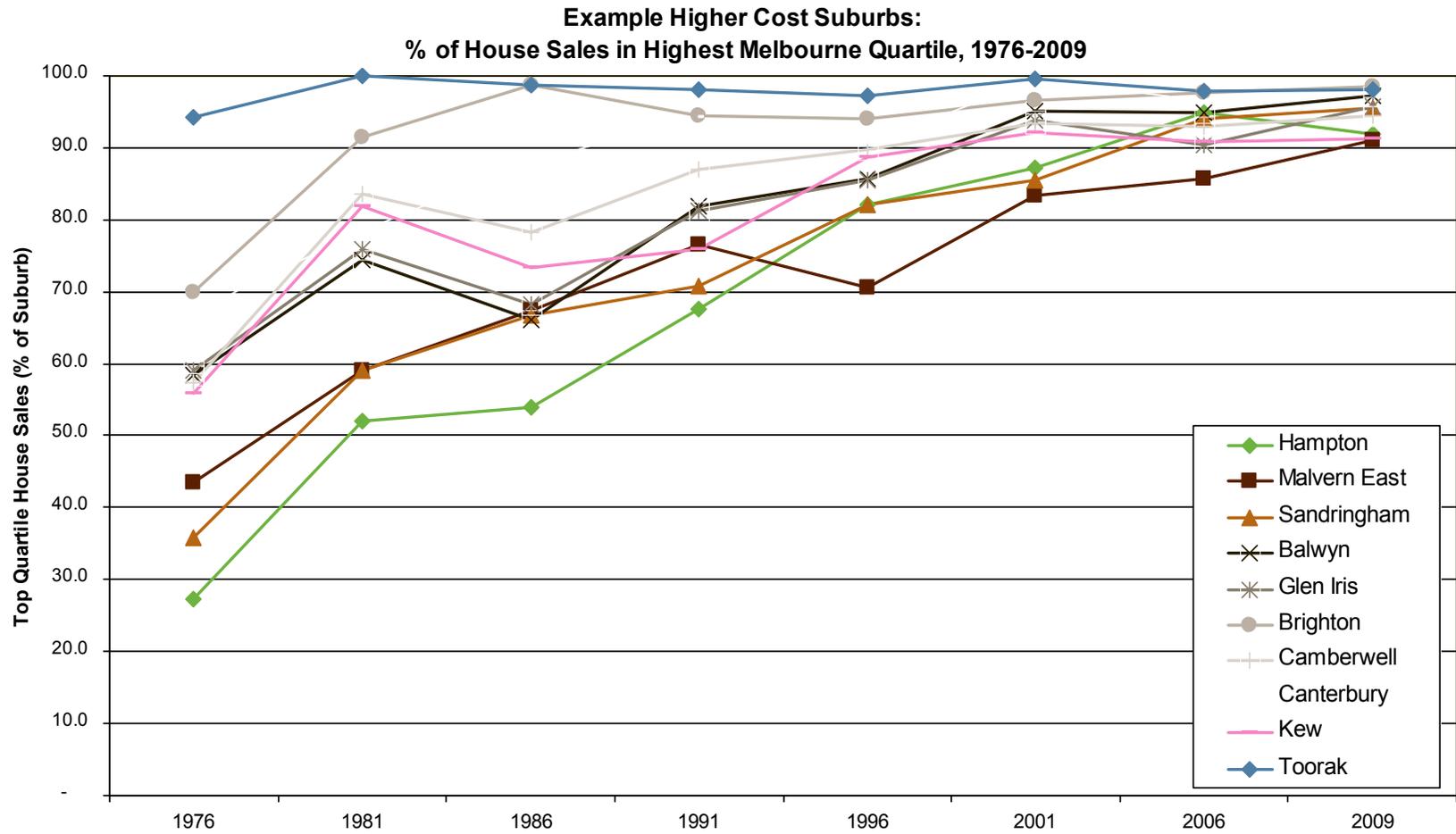**Figure 15: Camberwell: percentage of house sales by Melbourne quartile**

Camberwell:
Percentage of House Sales by Melbourne House Price Quartile
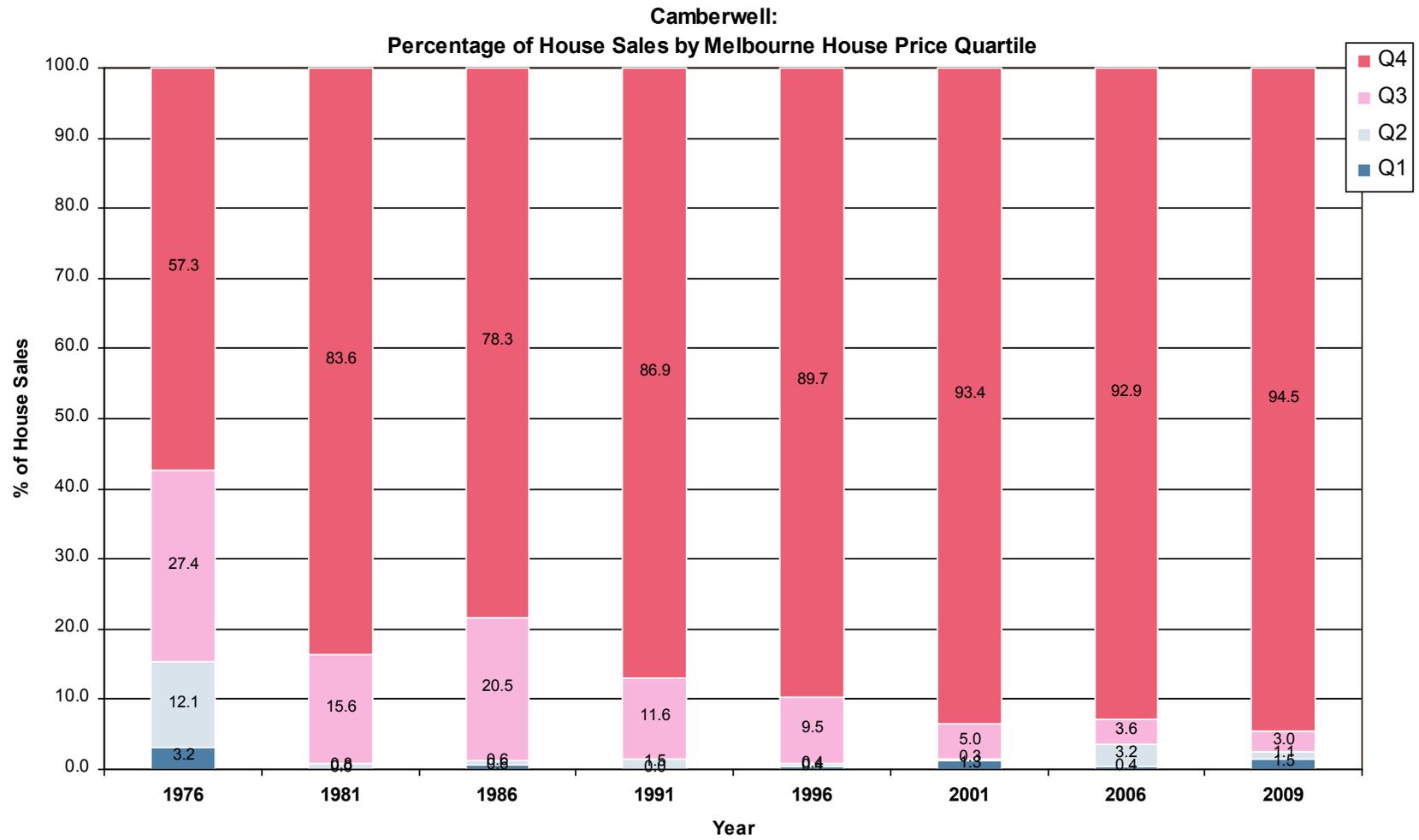
Figure 16: Sandringham: percentage of house sales by Melbourne quartile

Sandringham:
Percentage of House Sales by Melbourne House Price Quartile
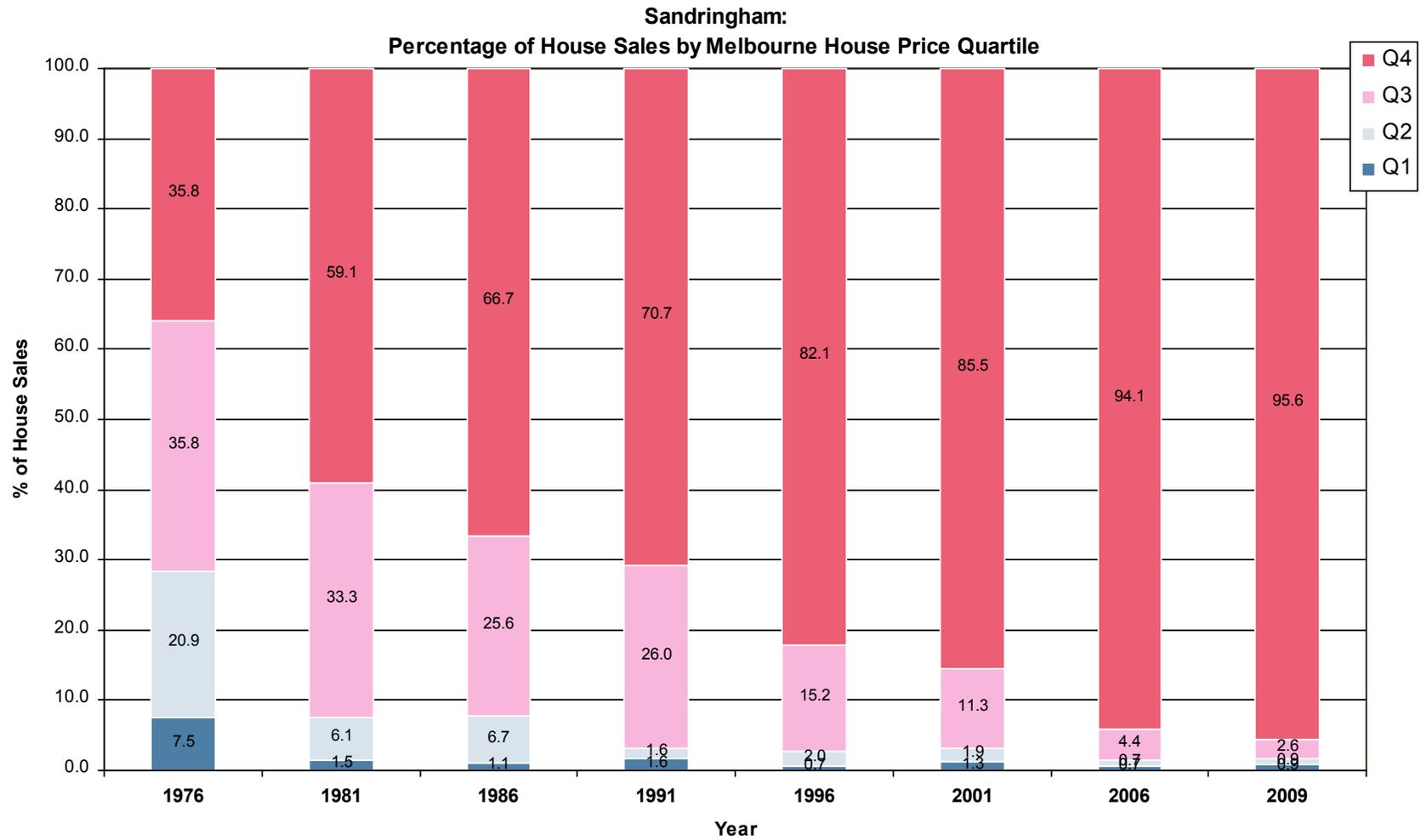
Figure 17: Toorak: percentage of house sales by Melbourne quartile

Toorak:
Percentage of House Sales by Melbourne House Price Quartile

Legend: Q4, Q3, Q2, Q1

Y-axis: % of House Sales (0.0 to 100.0)
X-axis: Year

Year	Q4	Q3	Q2	Q1
1976	94.3	3.4	2.3	0.0
1981	100.0			0.0
1986	98.7			0.9
1991	98.2			0.8
1996	97.3			0.9
2001	99.5			0.5
2006	97.9		1.6	0.8
2009	98.1			0.8
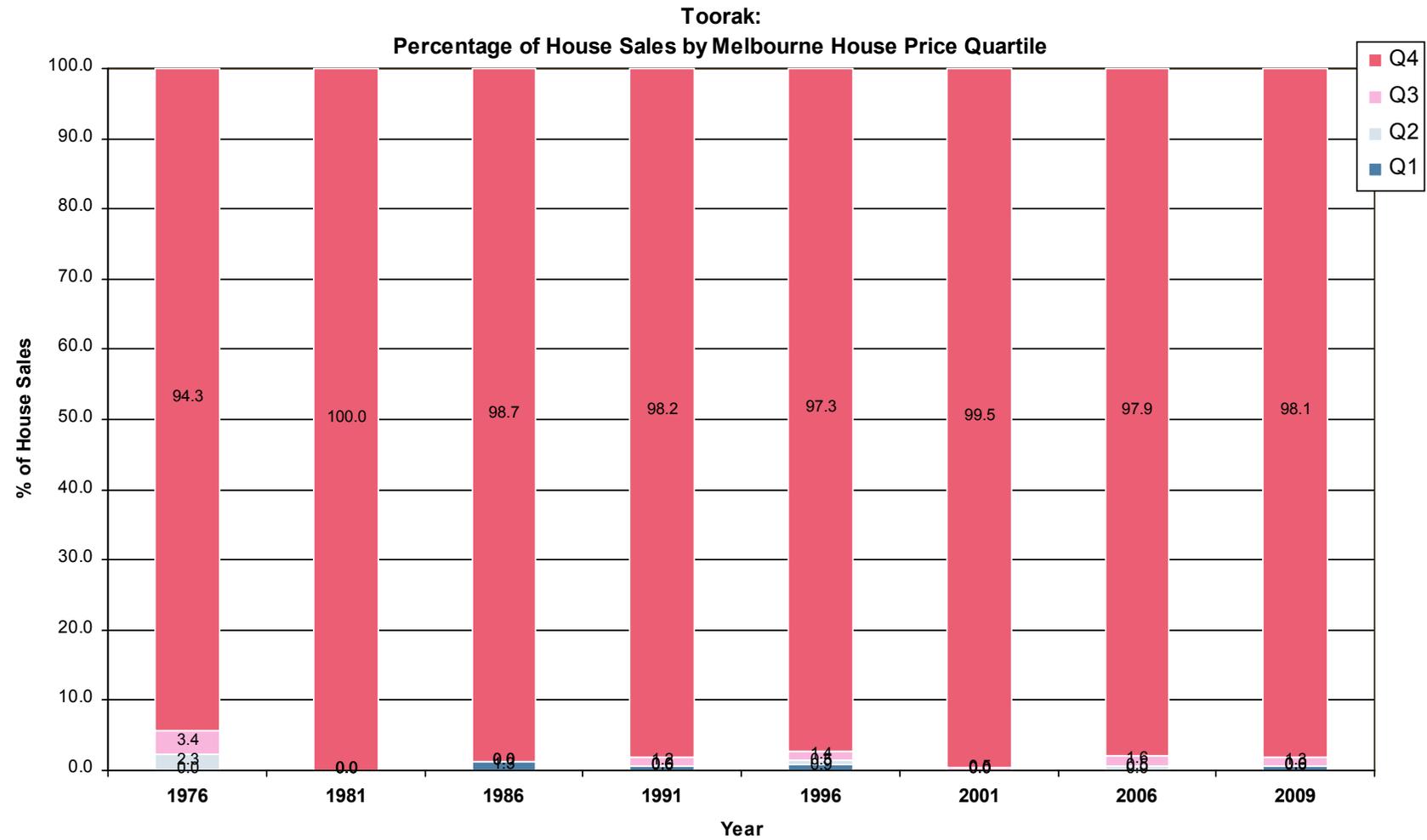
Where lower cost housing is now located

Themes

The preceding analysis has identified suburbs in Melbourne that once had high proportions of cheaper housing, but where gentrification has seen the disappearance of housing from lower cost segments. It has also looked at suburbs that have undergone the opposite experience, with increasing proportions of lower cost housing. Finally it has identified suburbs that have always had fairly low proportions of cheaper housing, and that increasingly have even less. These trends all contribute to an understanding of where Melbourne's lower cost housing is now located.

In this context lower cost housing refers to the lowest 25% of sales - $324,950 or less in 2009. The lowest 25% of sales are not necessarily affordable to all, or any specific groups of households. Prices at the 25th percentile have continued to increase over time (as shown previously at Figure 1). Melbourne's relatively lower cost housing has tended to be increasingly located in three main types of location, all in outer and fringe areas:

- Fringe subdivisions, mainly from the 1980s and 1990s;
- More established fringe locations; and
- Peri-urban areas.

This pattern is the opposite to the location of sales in the highest price quartile, which now account for the majority of sales in inner and middle Melbourne. The following are examples of lower cost suburbs, in their rough groupings. All of these suburbs had, in 2009, over 60% of their sales in the lowest price quartile. To keep the examples listed only to more substantial suburbs, only those that also had more than 75 total sales in 2009 are listed.

Examples

- **Fringe subdivisions, mainly from the 1980s and 1990s**

Suburbs developed on the urban fringe 20-30 years ago tend to have high proportions, and high numbers, of sales in the lowest price quartile. These include: Carrum Downs, Cranbourne, Cranbourne West, Delahey, Hampton Park, Hoppers Crossing, Meadow Heights, Pakenham, and Wyndham Vale.

The pattern of house sales for Carrum Downs is shown at Figure 18. A suburb mainly developed in the 1990s, over 70% of house sales in Carrum Downs are now in the lowest Melbourne price quartile.

- **More established fringe areas**

Parts of the urban fringe, developed in the interwar or immediate post war period, have always been home to relatively low cost housing. These areas are sometimes located in proximity to industrial areas, have high proportions of public housing, and have tended to be popular destinations for migrant groups. These include: Deer Park, Doveton, Frankston North, Laverton, Melton, Melton West, St Albans, and Werribee.

It is notable that formerly very similar areas, such as Braybrook and Springvale, have recently experienced sharp decreases in the proportion of lowest quartile sales.

Housing price trends for Doveton are shown at Figure 19. Doveton has consistently had a very high proportion of its house sales in the lowest price quartile. This proportion increased to 98% in 2001, but has since decreased to 88.3%.

- **Peri-urban areas**

Partly as a function of the definition of the Melbourne Statistical Division, much of the lower cost housing in Melbourne is situated in peri-urban areas such as the Yarra Ranges, and around Westernport Bay. These include Cockatoo, Crib Point, Hastings, Millgrove, Sunbury and Warburton. These non-contiguous townships vary significantly in terms of their infrastructure and level of connectivity to Melbourne.

Housing price trends for Hastings are shown at Figure 20. In 2009, 66.2% of house sales in Hastings were in the lowest Melbourne price quartile.

Figure 18: Carrum Downs: percentage of house sales by Melbourne quartile

Carrum Downs:
Percentage of House Sales by Melbourne House Price Quartile

Figure 19: Doveton: percentage of house sales by Melbourne quartile
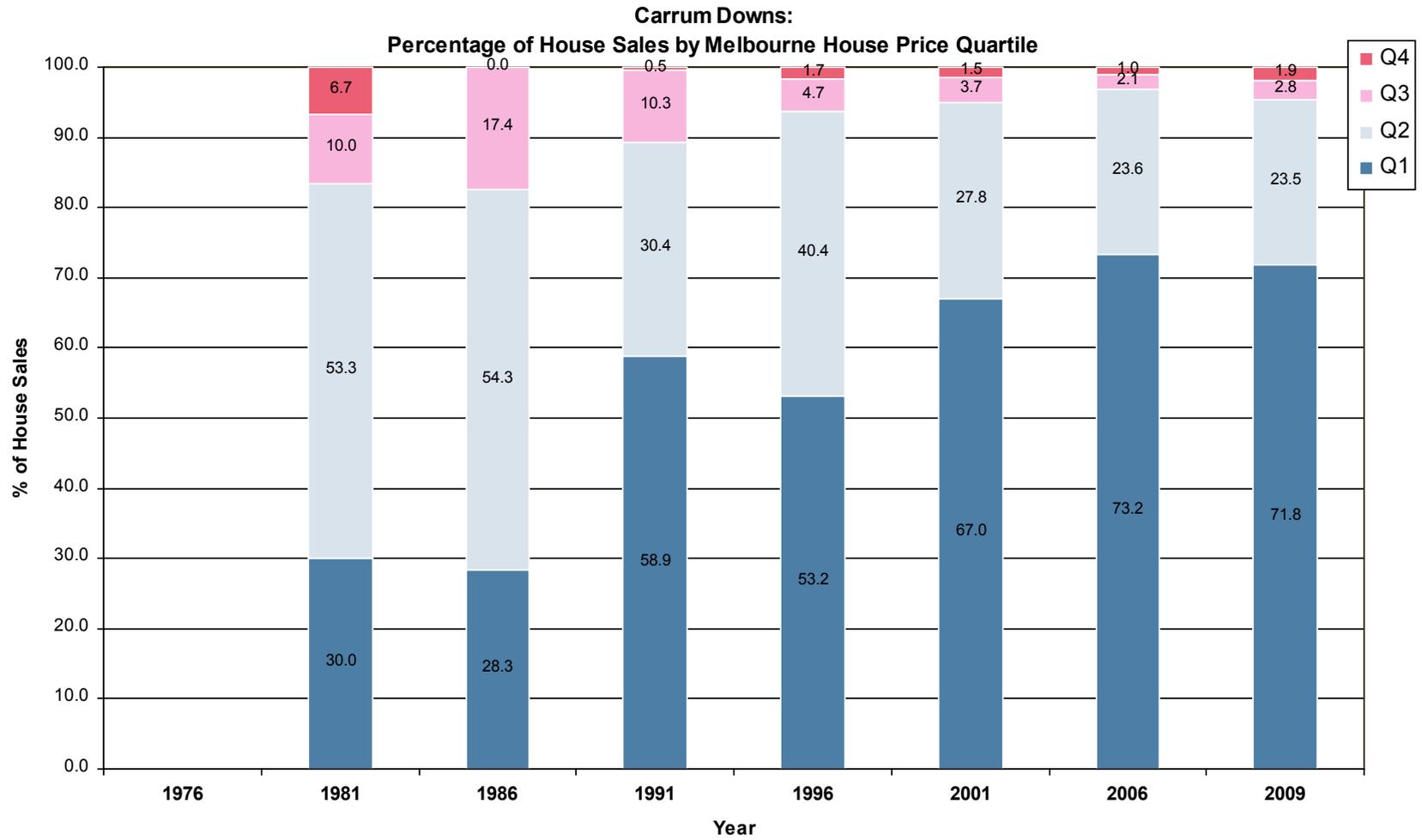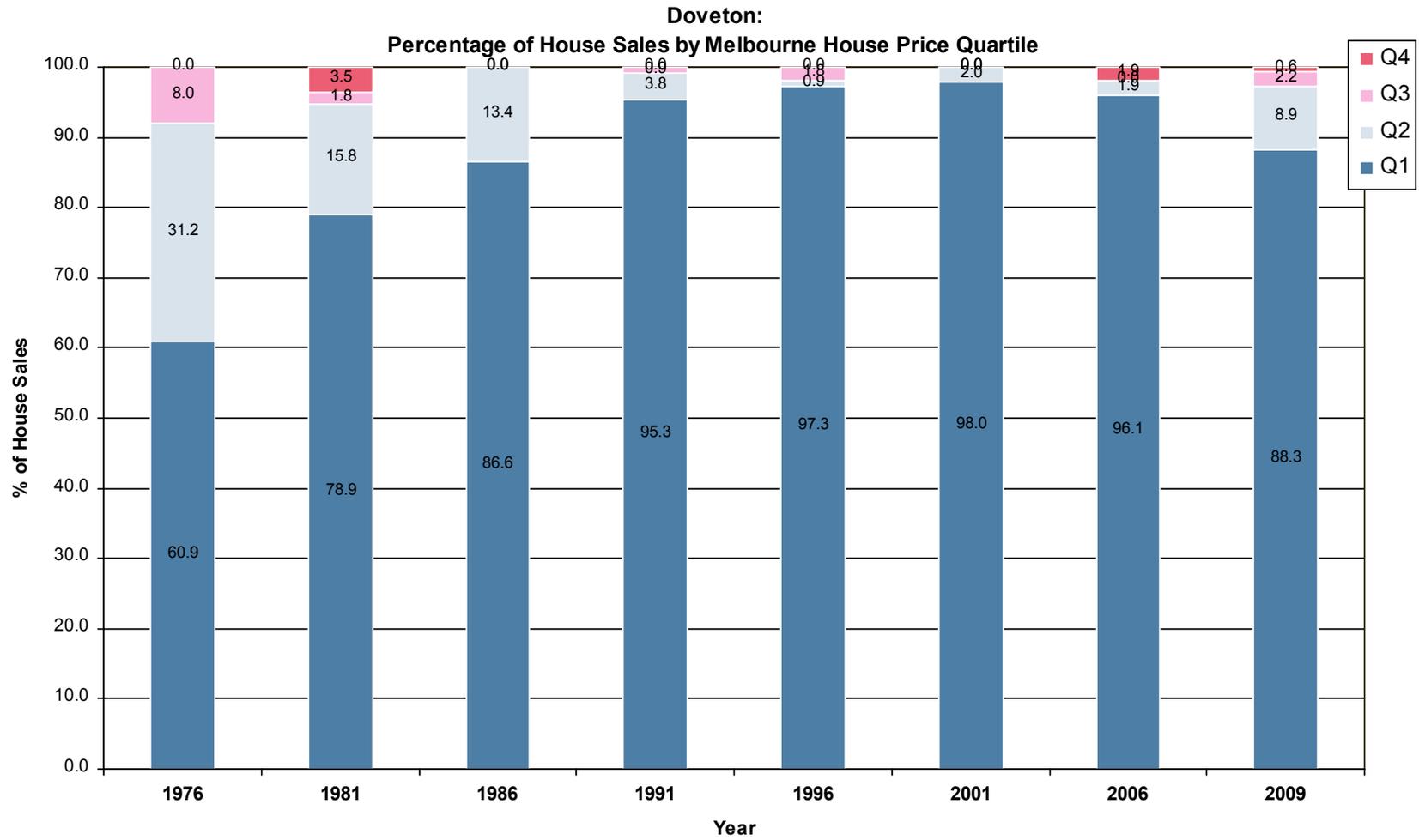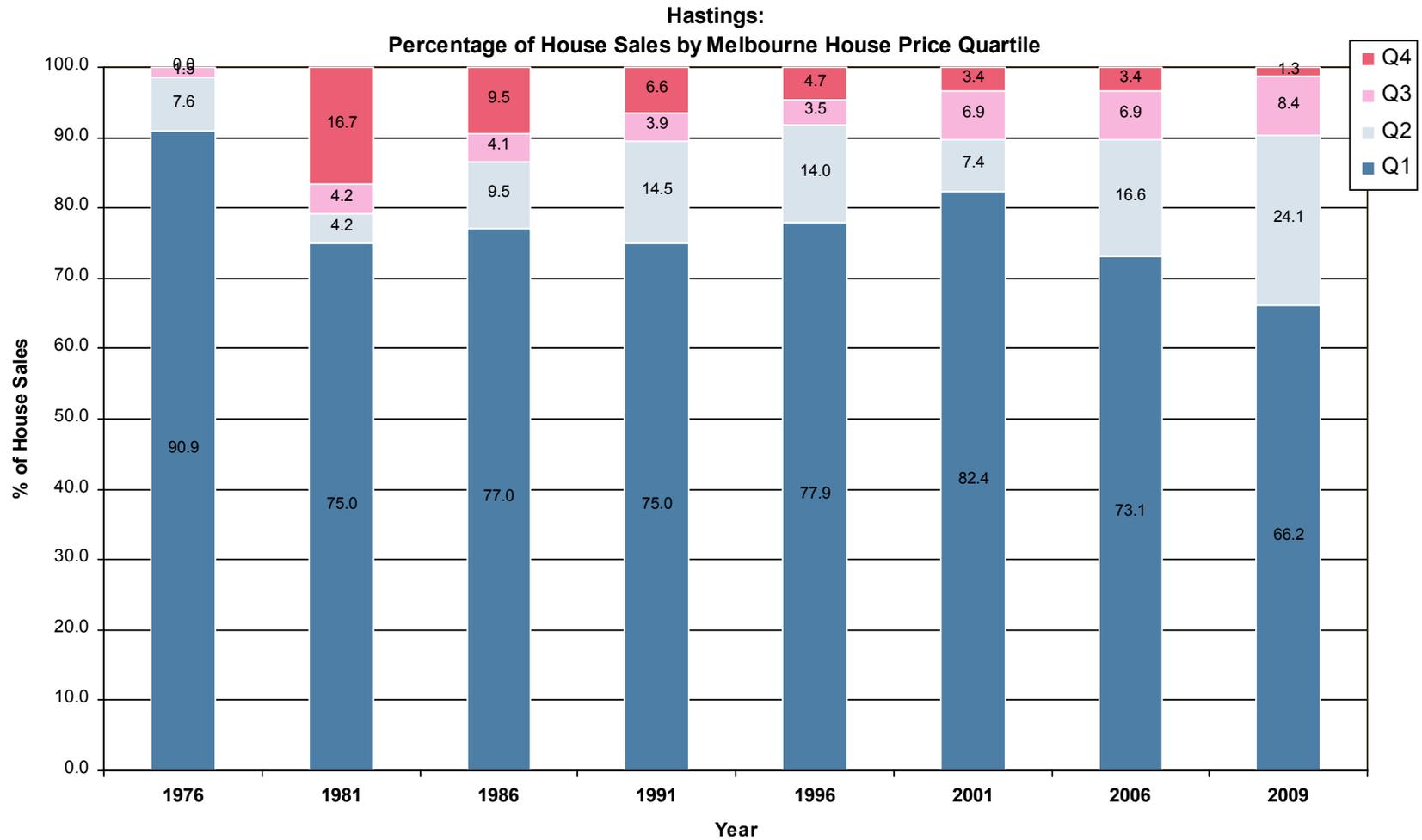

Doveton:
Percentage of House Sales by Melbourne House Price Quartile

Figure 20: Hastings: percentage of house sales by Melbourne quartile

Hastings:
Percentage of House Sales by Melbourne House Price Quartile

Increasing segregation in the housing market

Themes

For there to be an even distribution of housing sales across suburbs, roughly 25% of each suburb's house sales would be in each quartile of the Melbourne price distribution. Based on the analysis so far of the study period 1976-2010, this type of price distribution in Melbourne's suburbs is not common. It is also increasingly unlikely into the future. The evidence suggests that suburbs are becoming more homogenous in price: falling into two main groups of higher cost suburbs in the inner and middle suburbs, and lower cost suburbs on the urban fringe. Fewer suburbs have a mix of housing price levels and the distributions of relatively high and relatively low cost sales are in increasing contrast.

Disappearance of mixed price suburbs

The suburb typologies described in the methodology (see Appendix) provide one way of categorising the changing distribution of sales between suburbs. Applying these profiles, middle cost suburbs are those that have more than 50% of their sales in the middle two price quartiles (quartiles 2 and 3). Mixed cost suburbs have a relatively even distribution of sales across the Melbourne price quartiles, with no obvious concentration in the higher or lower ends of the housing market.

The percentage of Melbourne suburbs (excluding those with insufficient data) falling into the middle or mixed price categories has decreased steadily over time. In 1976, 15.6% of Melbourne suburbs were mixed in price. Figure 21 shows that many of these suburbs were situated around the inner region: for example, St Kilda and Fitzroy. In 1976, 31.9% of Melbourne suburbs were in the middle price category.

The map at Figure 21 shows that there were already some obvious spatial trends in the housing market in 1976: housing sales were not evenly distributed. Suburbs in the East were mainly middle-high in cost (shaded in red), with less than 30% of their sales below the Melbourne median. By contrast in the Northern suburbs, suburbs were mainly low-middle in cost (shaded in blue), with less than 30% of their sales above the median. Suburbs on the urban fringe were mainly middle in cost. Within this distribution there were clusters of the highest cost areas around Doncaster and Templestowe (more than 70% in the top quartile); and of the lowest cost areas around Footscray (more than 70% in the lowest quartile). However, mixed price suburbs were distributed through the city. In general although there are spatial patterns, the divisions are not sharply demarcated.

By comparison by 2009 (see Figure 22) only 2% of Melbourne suburbs were in the mixed house price category. The proportion of middle priced suburbs also decreased, from 31.9% to 18.5%. Suburbs were increasingly in the highest cost and middle-high price categories. These two types (shaded in red) accounted for basically the entire inner and middle parts of Melbourne. These suburbs all had less than 30% of their sales below the Melbourne median, sometimes far less. In 2009 the low-middle and lowest cost suburbs are in the outer and peri urban regions. In the 2009 map, the spatial differences between the main types of suburbs are clearly delineated. There are few mixed suburbs and few non-contiguous suburbs. A price gradient away from the CBD is apparent.

Figure 21 Suburbs by house sale type, 1976

House Sales, 1976
Suburb Sale Profile by Type

0 No Data (232)
1 Lowest (15)
2 Low-Middle (50)
2 Mixed (42)
3 Middle (96)
4 Middle-High (50)
5 Highest (17)

• Train stations
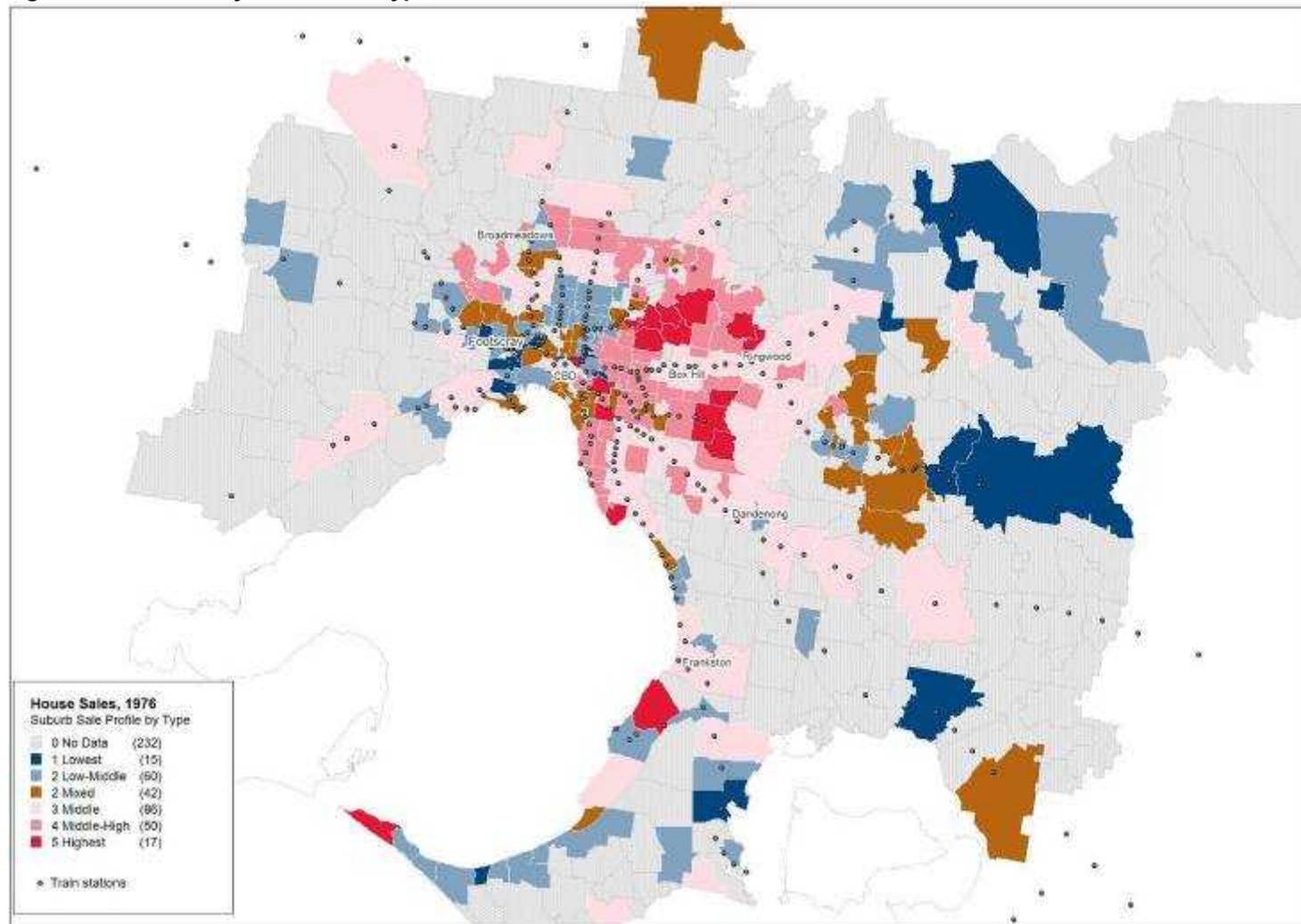
Figure 22 Suburbs by house sale type, 2009

House Sales, 2009
Suburb Sale Profile by Type

	0 No Data	(102)
	1 Lowest	(31)
	2 Low-Middle	(95)
	2 Mixed	(8)
	3 Middle	(74)
	4 Middle-High	(116)
	5 Highest	(76)

• Train stations
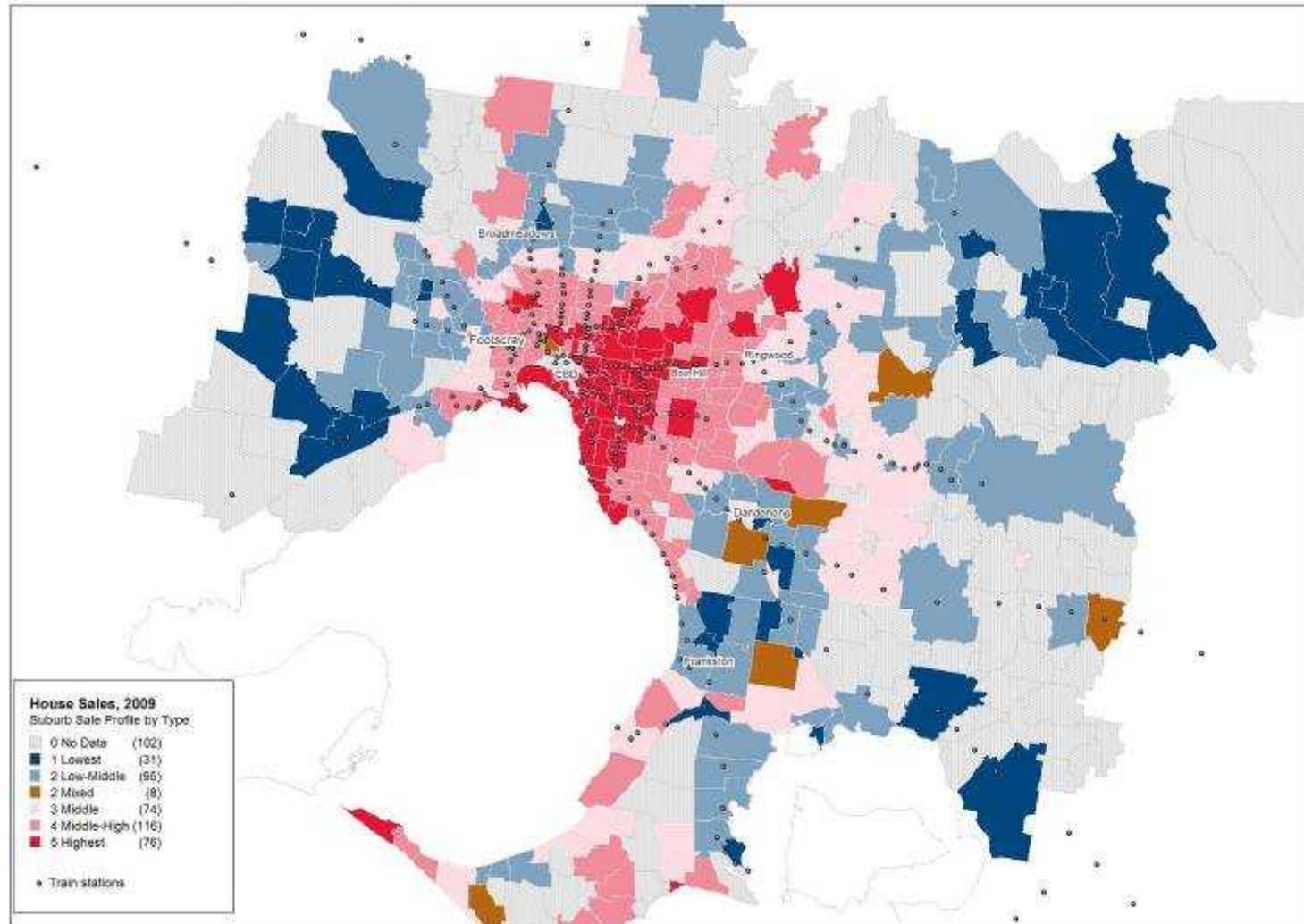
Index of dissimilarity

The index of dissimilarity is a statistical measure of the evenness with which two groups (for example, high cost sales compared to lower cost sales) are distributed across a given area. The index is described in greater detail in the Appendix to this report.

Figure 23 shows the index of dissimilarity calculated for the distribution of highest quartile sales. In any given year, 25% of sales are in the top Melbourne price quartile and 75% are in the remaining three price quartiles. The index measures the proportion of sales that would have to move across suburb boundaries in order for this distribution to be mirrored in each Melbourne suburb.

The light blue line shows the index for house sales only. Dissimilarity in higher priced house sales has increased, from 47.5% in 1976, to 66% in 2006 and up to 70.2% in 2009. This means 70.2% of house sales in Melbourne would have to move across suburb boundaries in order for there to be an even distribution of sales in the top price quartile. The dark blue line shows the same measure but for all dwelling types – houses and units/apartments combined. Using this measure, the level of dissimilarity has also increased steadily. The index of dissimilarity for all dwellings is, however, lower - at 60.7% in 2009 – than the index for house sales only.

In any given year, 50% of sales are in the top two Melbourne price quartiles and 50% are in the lower two price quartiles. Figure 24 shows the index of dissimilarity for the distribution of the top and bottom 50% of Melbourne prices in each year. This index in this case measures the proportion of sales below the median that would need to move suburb boundaries in order to be distributed evenly to the other half of sales. The level of dissimilarity or segregation between these two groups has increased in Melbourne, from 44.6% in 1976 to 66.4% in 2009 for houses. The index for all dwellings, including units and apartments, has also increased steadily since 1976. However, again the level of dissimilarity for all dwellings is lower (at 58.1% in 2009) than the index for house sales only. The indexes for houses and all dwellings were closer in 1976, at 44.6% and 42.1% respectively.

Increases in the dissimilarity results for houses and for all dwellings add to the analysis by providing a standard measure with which to track key spatial changes in the city's housing market. It is apparent from the index results that sale prices in Melbourne are increasingly polarised, with sales of different price levels less likely to be mixed within suburbs.

Figure 23: Index of dissimilarity, highest quartile house and dwelling sales

Index of Dissimilarity - Highest Quartile House and Dwelling Sales, Melbourne 1976-2010
ID = % of high cost sales that would have to move suburbs in order to be evenly distributed
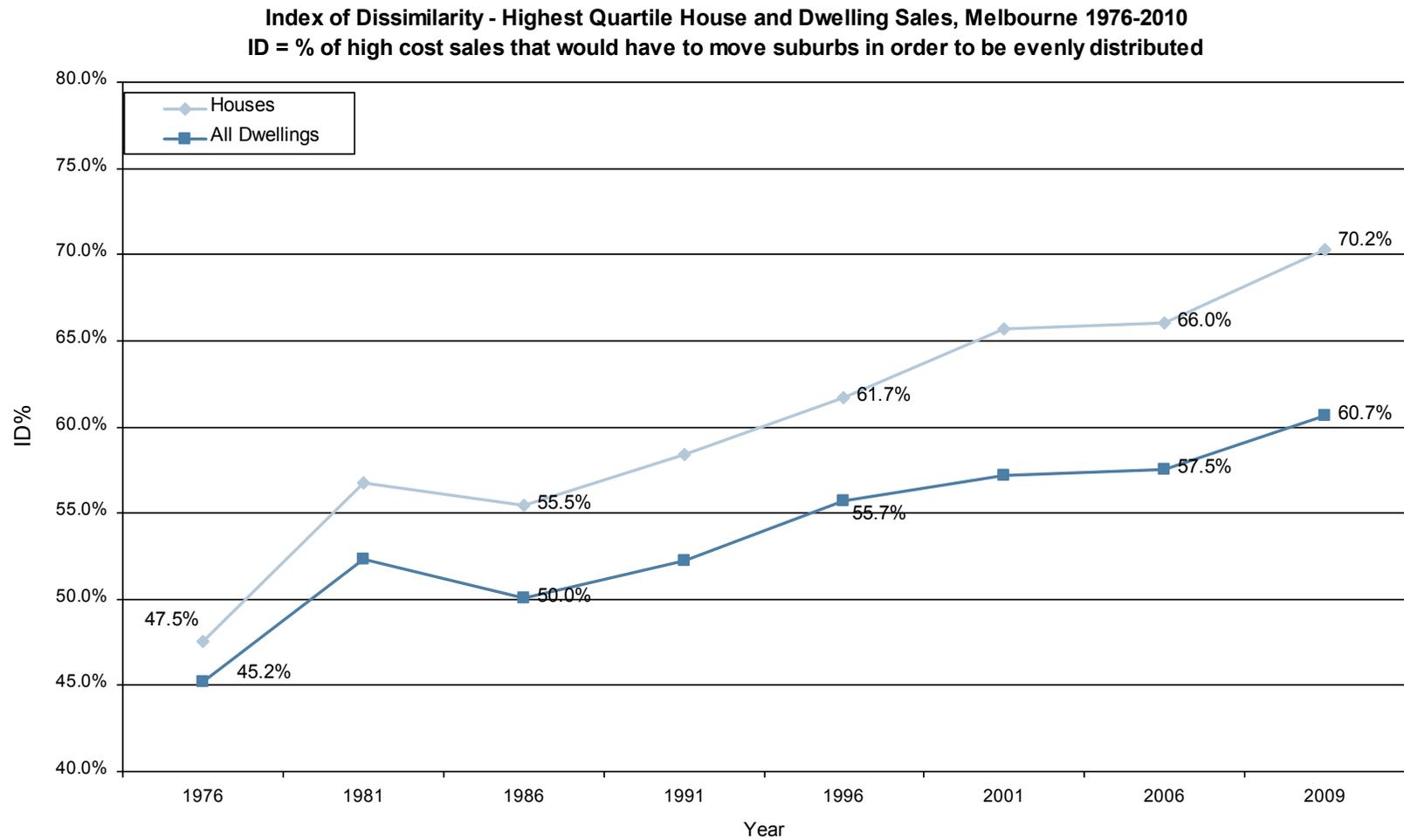
Figure 24: Index of dissimilarity, top/bottom 50% of house and dwelling sales

Index of Dissimilarity - Top/Bottom 50% of House and Dwelling Sales, Melbourne 1976-2010
ID = % of sales that would have to move suburbs in order to be evenly distributed
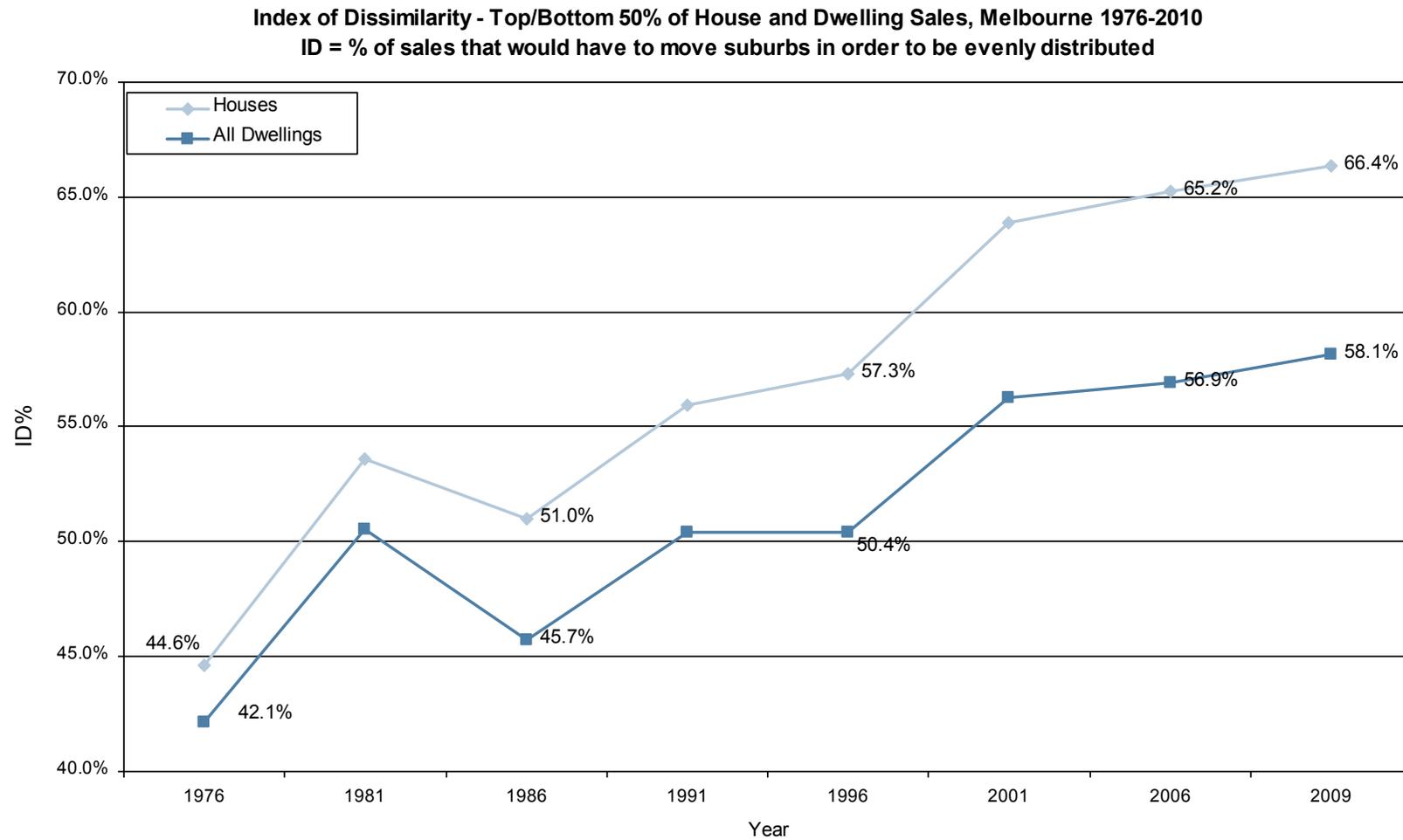
The role of units and apartments

Themes

Much of the analysis in this report has so far referred only to sales of houses (with the exception of the dissimilarity indices). However, other dwelling types – units and apartments – clearly have a role in the housing market. The index of dissimilarity indicates that, when taking units and apartments into account, Melbourne's housing market is less segregated. It is likely that comparatively low cost units and apartments situated in higher cost suburbs are part of the reason for this difference.

The role of units and apartments differs by location and submarket. In general, the lowest cost dwelling sales are mostly houses in the outer and growth areas. The most affordable suburbs such as Carrum Downs and Doveton have very low proportions of units and apartments. This is indicated at Figure 25. This shows the *share* of dwelling sales in the lowest quartile for Melbourne accounted for by each type (houses, units) and location (inner, middle, fringe, growth areas). In 2009, 32.3% of all Melbourne lowest quartile sales were houses in the growth areas and a further 20.2% were houses in the outer suburbs. Units and apartments accounted for comparatively small proportions of sales in the lowest price quartile. These proportions were, however, growing.

The other way of looking at units and apartments is that they are generally lower in cost than are houses. This is more important in higher cost submarkets. In the inner Melbourne suburbs, 20.3% of units and apartments were in the lowest quartile of sales in 2009, compared to only 2.3% of sales of houses in the inner suburbs. However, except in some inner suburbs, there are far fewer units and apartments than there are houses, so the overall effect on price may not be substantial. Put another way, in the inner region of Melbourne only 8% of all dwelling sales were in the lowest price quartile for Melbourne in 2009, of which 96.6% were units and apartments. Similarly in the middle suburbs, 14.9% of all dwelling sales were in the lowest quartile, of which 79.4% were units and apartments.

In some suburbs units and apartments are also higher cost. There are some noticeable compositional differences between different types of units and apartments. In particular, new, larger apartments being constructed at the 'luxury' end of the market in some suburbs are very different to the older, smaller 'flats' common in those same suburbs. Also, large numbers of apartments in areas like Carlton are student-only and are not necessarily accessible to, nor suitable for the wider housing market.

Examples

Hoppers Crossing is an urban fringe location where most (74.9%) house sales were in the lowest house price quartile in 2009. When using the quartiles for all dwelling sales (houses and units/apartments combined), 68.6% of Hoppers Crossing house sales were in the lowest 25% of all dwelling sales in Melbourne. Units and apartments were more affordable: nearly all (92.1%) units and apartments in Hoppers Crossing were in the lowest quartile. However, units and apartments made up a relatively small portion of the sales in Hoppers Crossing. This is illustrated at Figure 27. In many affordable fringe locations, although units and apartments are lower in cost, the majority of sales are houses. This makes sense since it is often the

high underlying land value that leads to the construction of units in inner locations, whereas in outer areas, land is cheaper and thus the more preferred housing type – separate houses – dominates.

By contrast, Brunswick is a gentrified suburb where around half (50.2%) of house sales were in the highest price quartile for Melbourne in 2009. When using the quartiles for all dwelling sales, 63.2% of Brunswick house sales were in the highest 25% of all dwelling sales in Melbourne. In Brunswick, numbers of unit and apartment sales have increased over the study period, with similar amounts of house sales and unit/apartment sales in 2009. Whereas house sales in Brunswick were nearly all in the top two price quartiles, unit and apartment sales had a slightly more even distribution, with 20.1% in the lowest quartile and 31.4% in the second quartile. This is illustrated at Figure 28. In some higher cost submarkets, the only lower priced dwellings tend to be units and apartments.

Camberwell provides a slightly different example. Units and apartments in some submarkets are also relatively high cost, although they tend to be marginally lower in cost than houses. Unlike sales of houses in Camberwell, with nearly all (95.6%) in the highest Melbourne quartile for dwellings, only around half (42.9%) of unit and apartment sales were in the highest price quartile for Melbourne dwellings. Most of the remainder (47.1%) were in the second highest quartile. This being said, as illustrated at Figure 29, there were fewer sales of units and apartments than of houses.

Figure 25: Dwellings by location and dwelling type, by share of lowest quartile sales

Dwelling Sales by Location and Type:
Share of Melbourne Lowest Quartile Dwelling Sales
(What proportion of lowest quartile sales were of each location and type, by year?)
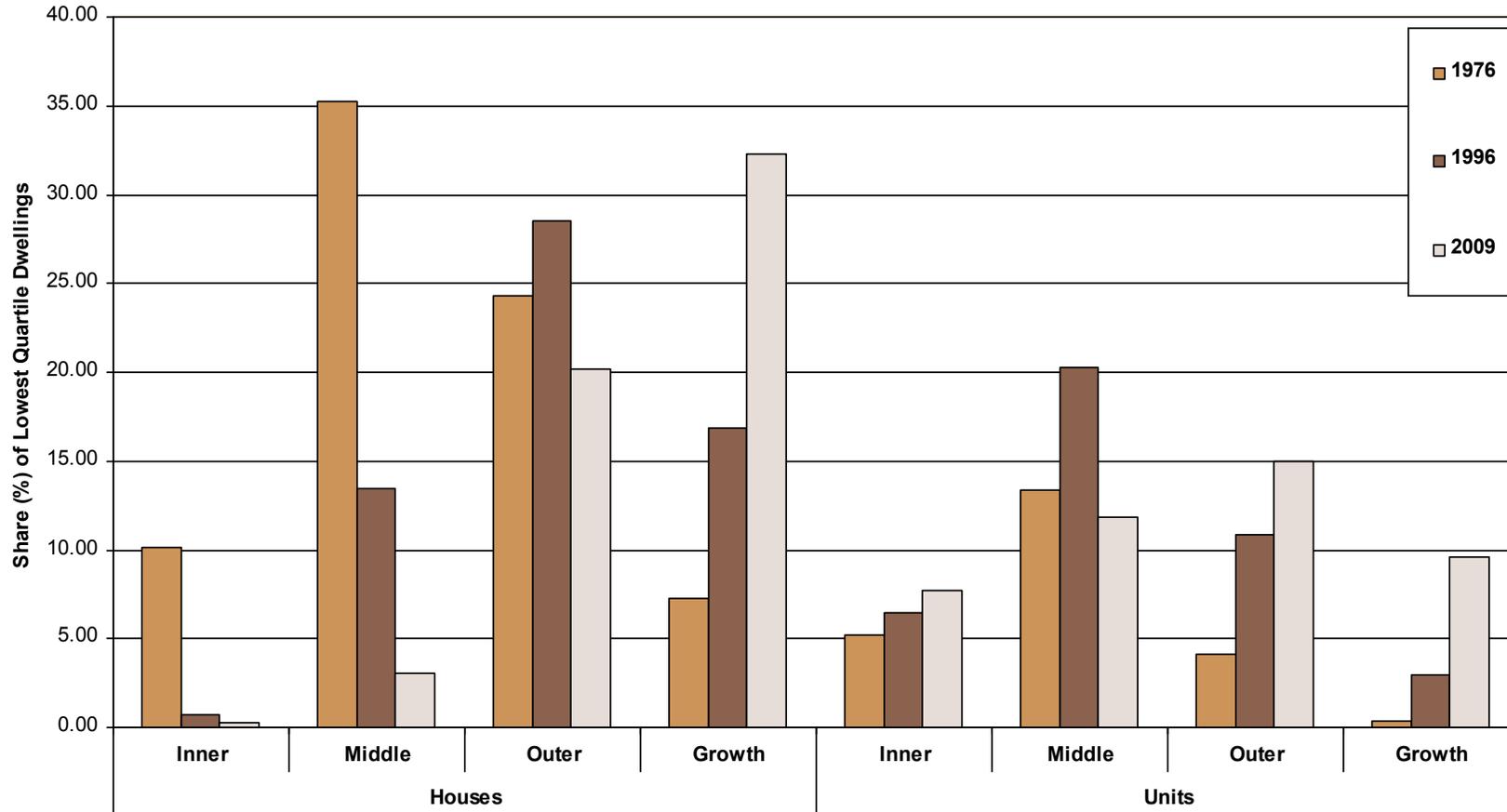
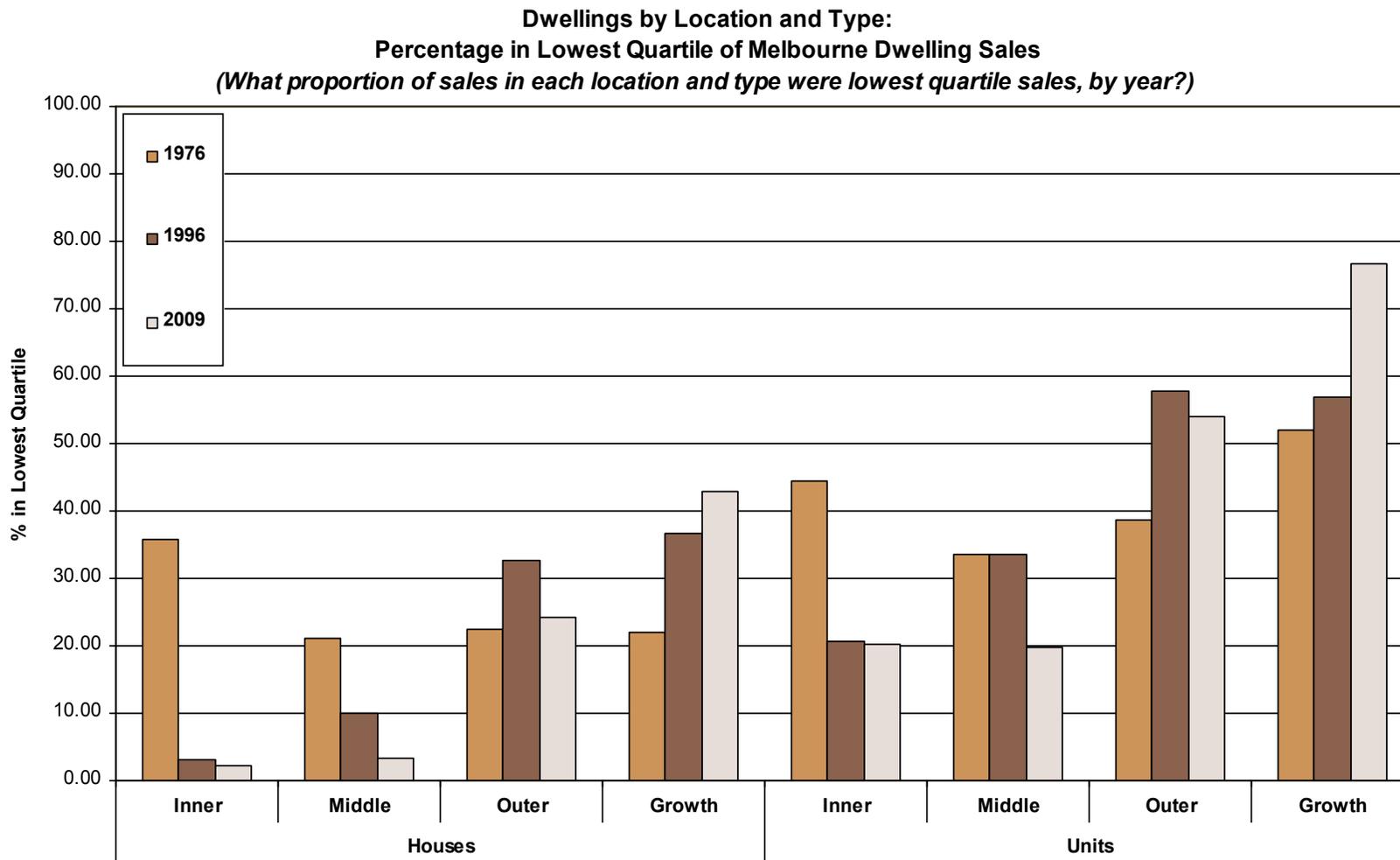**Figure 26: Dwellings by location and dwelling type, by % in lowest quartile**

Dwellings by Location and Type:
Percentage in Lowest Quartile of Melbourne Dwelling Sales
(What proportion of sales in each location and type were lowest quartile sales, by year?)

Figure 27: Hoppers Crossing: number of sales in Melbourne dwelling price quartiles, 2009, by dwelling type

Hoppers Crossing:
Number of sales in Melbourne dwelling price quartiles 2009, by dwelling type

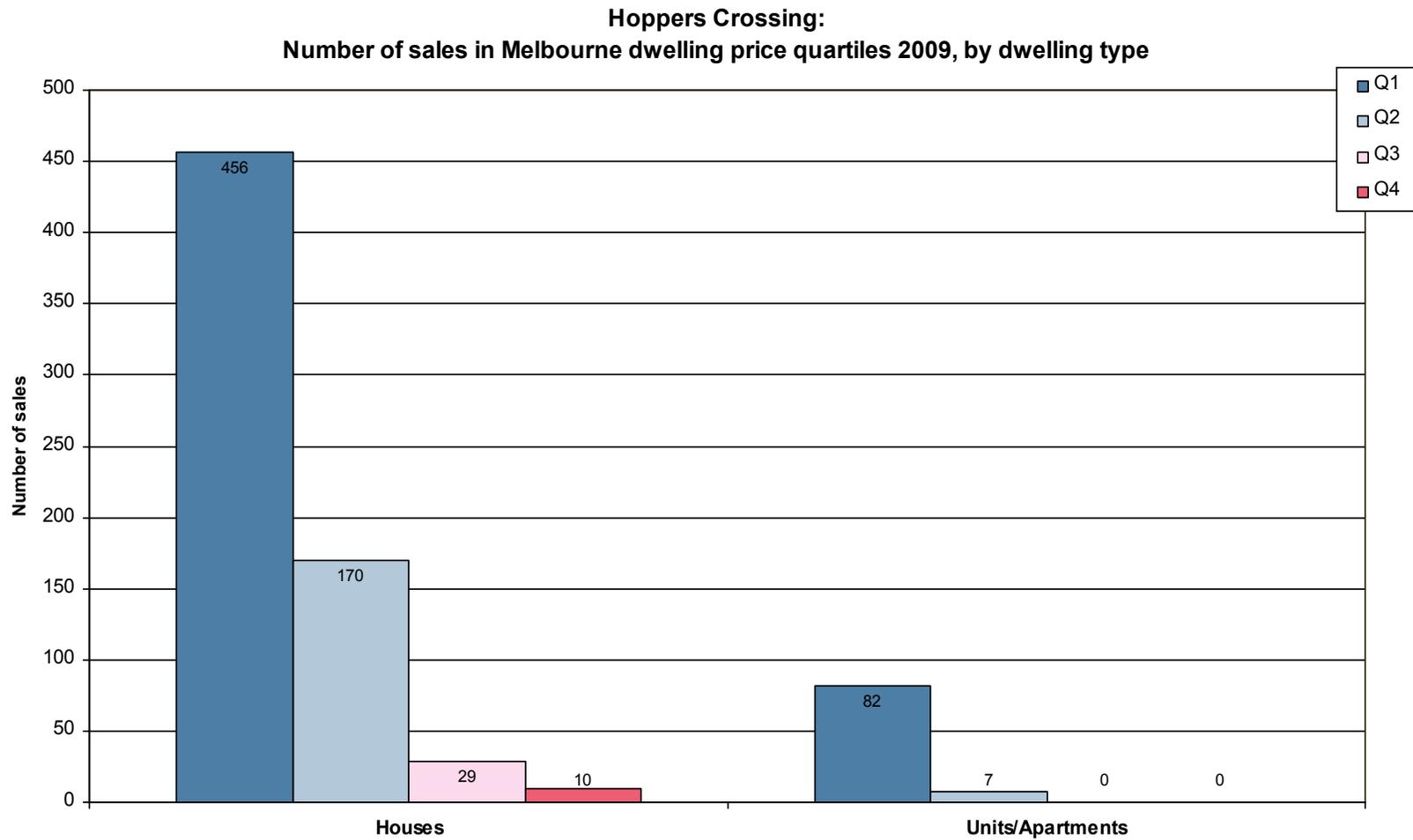**Figure 28: Brunswick: number of sales in Melbourne dwelling price quartiles, 2009, by dwelling type**

Brunswick:
Number of sales in Melbourne dwelling price quartiles 2009, by dwelling type

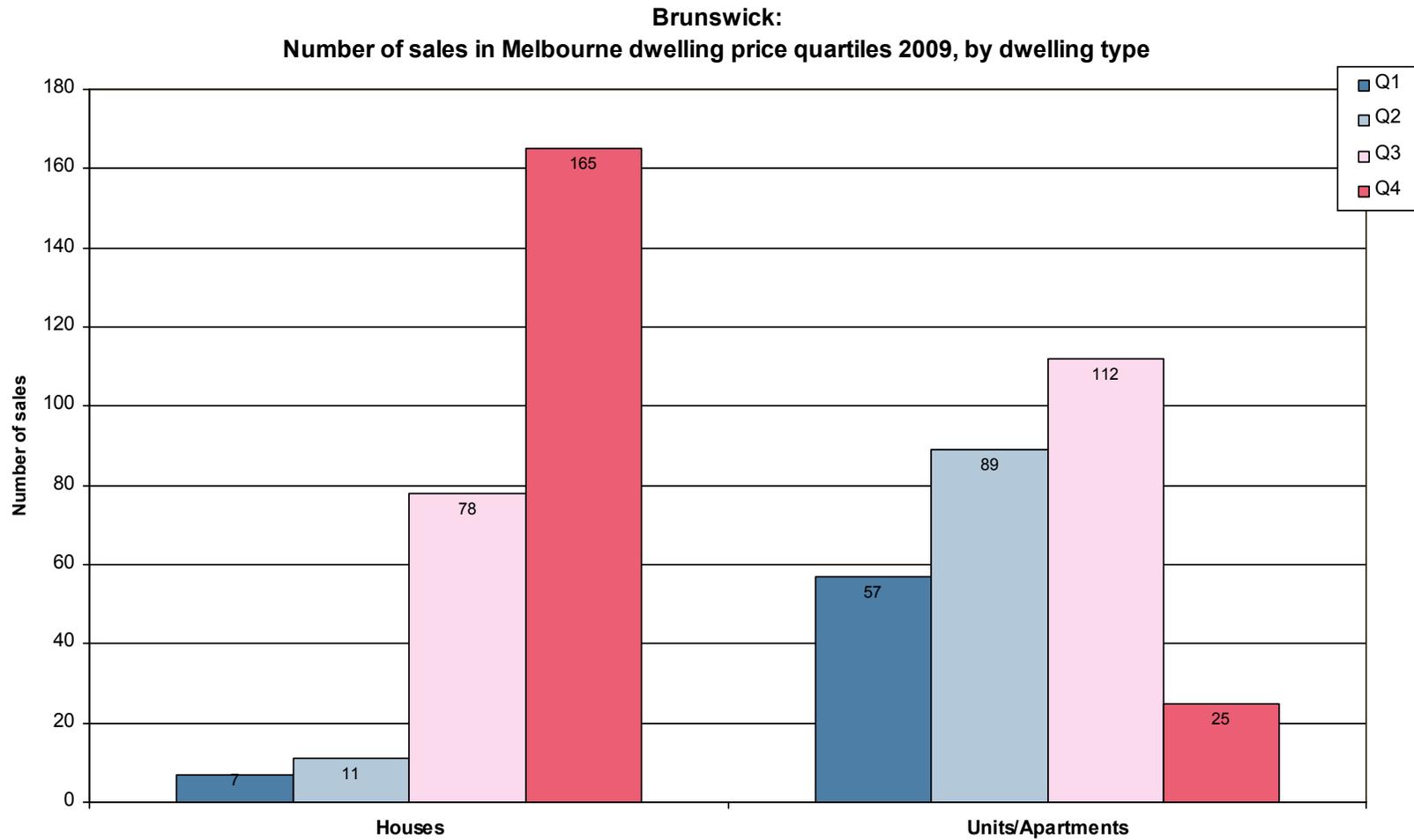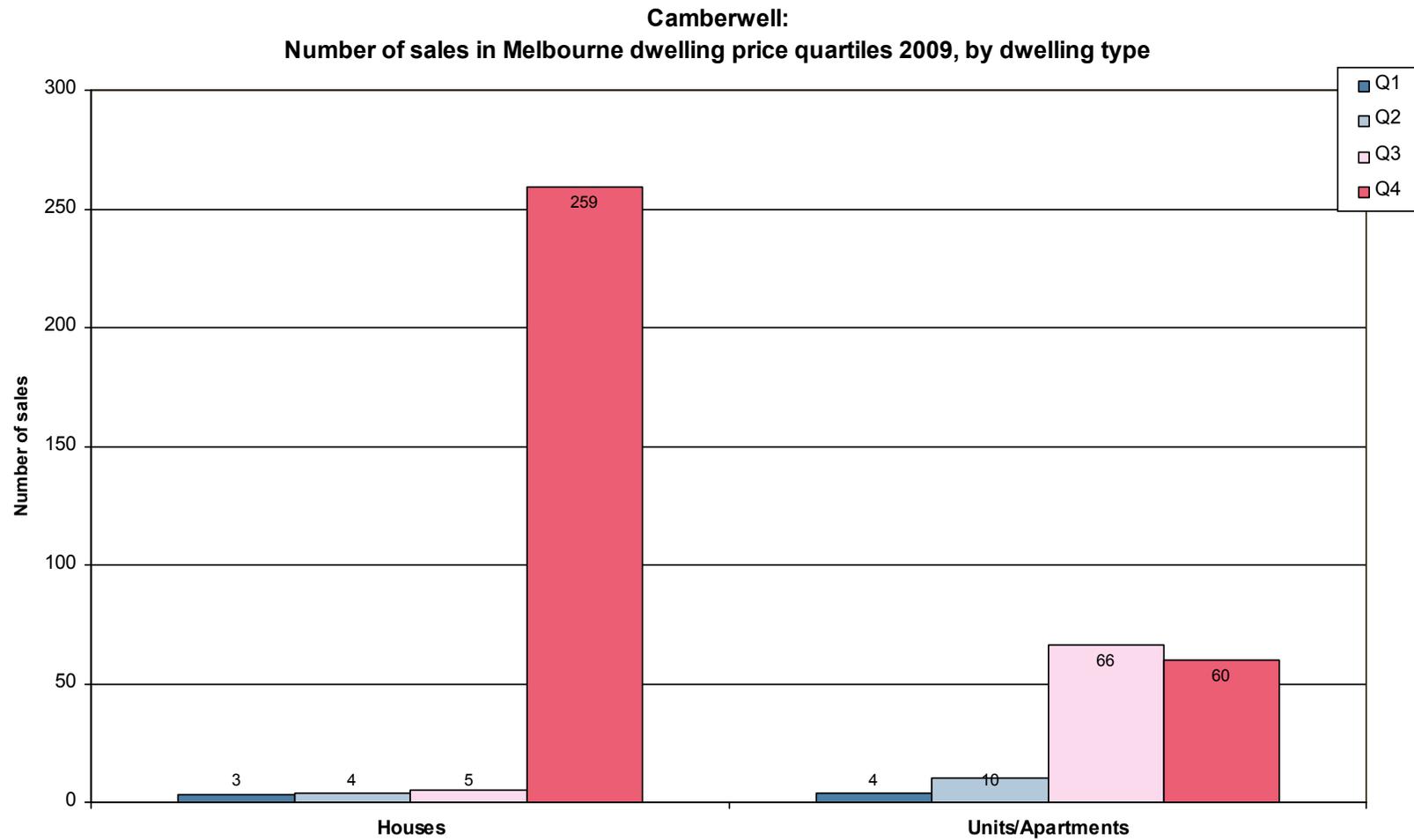**Figure 29: Camberwell: number of sales in Melbourne dwelling price quartiles, 2009, by dwelling type**

Camberwell:
Number of sales in Melbourne dwelling price quartiles 2009, by dwelling type

Main Findings

This report has examined changing spatial patterns of relatively low cost and relatively high cost housing across Melbourne's suburbs.

Between 1976 and 2009, the distributions and concentrations of low and high cost house sales across Melbourne suburbs have undergone dramatic changes. Suburbs to the north and west experienced successive waves of gentrification, with rapid decreases in their proportions of lowest quartile sales and corresponding increases in higher quartile sales. Some suburbs moved in the opposite direction, with fringe areas in Melbourne subdivided 2 or 3 decades ago now home to very high and increasing proportions of lower cost housing. In the traditionally higher cost housing markets of the inner and middle eastern suburbs, sales have become increasingly homogenous, with sales concentrated only in the top Melbourne price quartile.

Each of these trends contributes to an understanding of how sale prices in Melbourne have become increasingly polarised over the study period, with sharp spatial differences between inner and outer areas. Low cost housing has been increasingly concentrated in outer and fringe locations. This pattern is the opposite to the location of sales in the highest price quartile, which now account for the majority of sales in inner and middle Melbourne. The analysis of suburb types and of the index of dissimilarity likewise indicated that there are fewer mixed price suburbs in Melbourne than was the case in previous decades. Although most of the report focused on house sales, the varied role of units and apartments was considered. The lowest cost dwelling sales tend to be houses in the outer and growth areas. However, units and apartments are generally lower in cost than are houses. This is more important in inner and middle ring suburbs, where the only lower priced dwellings tend to be units and apartments.

The main findings from the research can be summarised as:

- **Some things change**: low cost housing has disappeared from some formerly low cost areas
- **Some things stay the same**: some suburbs have always been relatively higher cost
- Higher priced suburbs
    - Have traditionally been in the eastern suburbs
    - Are increasingly concentrated in the eastern and inner suburbs
    - **Higher priced suburbs are increasingly homogenous**: with fewer opportunities for lower income households
- The lower priced suburbs:
    - Have traditionally been in the western and northern suburbs
    - But many of these have experienced waves of gentrification
    - The more affordable suburbs now are often subdivisions from recent decades, that filter down in price
    - **Lower priced suburbs are increasingly in fringe and peri-urban areas**
- **Sale prices are increasingly polarised**, with strong spatial differences between inner and outer areas
- Flats and units make a difference in some housing submarkets but not all. The role of units and apartments in the composition of Melbourne housing prices is an area for further research.

Appendix: detailed methodology

Data Sources

The research is based on Valuer General residential transaction records, consisting of unit-record level data on the sales of houses and of flats/units/apartments. This data is available in a reliable format from 1975 onwards. Mainly for manageability, the focus is on census years of data (every 5 years from 1976); and on the years since the most recent census (in 2006). There are 11 years of data included:

- The census years 1976, 1981, 1986, 1991, 1996, 2001, and 2006
- The years since the 2006 census: 2007, 2008, 2009, and 2010 (part)

Unit of Analysis

The main unit of analysis is suburbs, using gazetted suburbs in Metropolitan Melbourne as at 2010. The main advantage of using suburbs is that they are easily recognisable boundaries. They also offer a reasonable level of spatial disaggregation. Disadvantages of suburbs are that they vary in size and number, and so are not suited to some types of analysis. Suburb names and boundaries also change over time but, as the records have been coded to suburbs based on the current suburb boundaries, name and boundary changes are effectively ignored.

There were some issues with incorrect or missing suburb names for two of the years (2001 and 2006). The number of records impacted is small but should be kept in mind for small numbers. Not all suburbs have sufficient data in each year, and the number of suburbs with sufficient data changes (decreases) substantially over time.

Quartiles

The dwelling transactions have been sorted into quartiles based on their year of sale and on their dwelling type. Using quartiles means that all sales in Melbourne in each of the study years have been ranked and coded into four equal count groups. There are two types of quartiles used:

- House quartiles: quartiles by year and type (e.g. top 25% of houses in 1991)
- Dwelling quartiles: quartiles by year for all dwelling types (e.g. bottom 25% of all dwellings in 1991)

Quartiles 1-4 equate to:

- Quartile 1: The lowest 25% of sales in Melbourne (i.e. up to the 25th percentile)
- Quartile 2: Low-middle sales (25th percentile to the median)
- Quartile 3: Middle-high sales, (the median to the 75th percentile)
- Quartile 4: The highest 25% of Melbourne sales (75th – 100th percentile)

Much of the analysis focuses on the proportion of a suburb's sales that were in quartile 1 or quartile 4. These are referred to as relatively lower cost, and relatively higher cost, sales respectively.

Suburb Typologies

One part of the analysis applies a set of criteria to categorise the overall distribution of sales in each suburb. This part of the methodology seeks to describe the two main trends simultaneously, with the categorisation of suburbs by types driven both by the changing proportion of relatively low cost dwellings, and by the changing proportion of relatively high cost dwellings. This categorisation provides one way to systematically describe and categorise the distribution of sales within suburbs. The following rules are applied to group the suburbs into types for each year. The rules applied do not have a formal basis: they are based on trialling different methods, and on comparing the resultants to intuitive assessments of the data.

- More than 70% in lowest quartile = "lowest cost suburbs"
- More than 70% in top quartile = "highest cost suburbs"
- Less than 30% in bottom 2 quartiles = "middle-high cost suburbs"
- Less than 30% in top 2 quartiles = "low-middle cost suburbs"
- More than 50% in mid quartiles 2 and 3 = "middle cost suburbs"
- Otherwise = "mixed suburbs"

Dissimilarity

The index of dissimilarity is also known as the index of segregation, or the Duncan and Duncan index (Wong, 1993). This is a measure of the evenness with which two groups are distributed across a given area. The index indicates the percentage of the two groups that would have to move across boundaries in order to produce a distribution that matches the other group.

This index has often been used to measure the segregation of racial and demographic characteristics. In this research it is used to provide a measure of the distribution of housing sales across the city. As, for example, 25% of sales are above the 75th percentile of prices for Melbourne and 75% are below, for there to be an even distribution of sales across the city then these proportions would be roughly similar in each suburb. As suburbs may have either much higher or much lower proportions, the index measures the percentage of sales in the highest quartile that would have to move across suburbs in order for there to be an even distribution. The analysis looks at whether this measure of segregation has changed over time.

Advantages

The primary advantage of the method of analysis is that it provides a simple way of describing price changes relative to Melbourne prices overall – as in, 'relatively cheap' or 'relatively expensive'. It also provides a simple way of describing spatial distribution and concentration, allowing the changing patterns in the location of higher and lower cost sales in different areas to be described.

The approach also provides another way of looking at housing submarkets. Instead of focusing on medians or on temporal affordability measures it focuses on the relationships between prices in the city's suburbs. This approach highlights spatial trends in the housing market that tend to be masked when using other measures such as median housing prices.

Disadvantages

A key difficulty with the research method is that it can be difficult to explain quickly and simply. Although quartiles provide a fairly simple and manageable way of describing trends in housing costs, the concept may be unfamiliar.

The measures may also be misinterpreted. In particular, an increasing proportion of relatively low cost housing does not mean that prices are falling or that affordability is increasing. Housing prices have moved upwards fairly consistently over the years covered, and usually ahead of incomes. The data does not (and can not with the underlying data) control for compositional differences such as house size. Another disadvantage of the analytical approach is that there are still large amounts of data, and a correspondingly large number of potential ways of presenting it.

Caveats

There are some caveats to place on the data and the analysis. Firstly the sales were not 'cleaned', meaning that some non-market sales (such as family transfers) are present. Data errors can be expected, including data entry errors (additional or missing 0s), and incorrect suburb names. These errors are assumed to be small and to be randomly distributed. They should, however, be kept in mind particularly when interpreting small numbers.

The analysis sometimes focuses only on house sales (detached houses). Trends in the sale of units and apartments, and of all dwellings, are included in some parts of the analysis. There is also a section on the role of units and apartments in different housing submarkets. However, partly because of size restrictions, not all analysis is replicated for houses / units / all dwellings and so may only refer to houses.

Suburbs with fewer than 10 sales in a year are ignored. There were 232 suburbs with fewer than 10 house sales in 1976, compared to 102 in 2009.

References

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