

# 5 Mixed Neighbourhoods: Effects of urban restructuring and new housing development

*Sanne Boschman, Gideon Bolt, Ronald van Kempen & Frank van Dam*

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**Abstract:** Many European countries use mixed housing policies to decrease the spatial concentration of low-income households. Also in the Netherlands, social housing in deprived neighbourhoods is demolished and replaced by more expensive dwellings. The idea is that these new dwellings attract higher-income groups to urban restructuring neighbourhoods. At the same time, however, also large numbers of relatively expensive dwellings have been built at greenfield locations. This leads to a dilemma: will higher-income households choose for housing in deprived neighbourhoods, while also attractive new housing on greenfield locations is available? This study shows that urban restructuring attracts higher-income households to mixed tenure developments in deprived neighbourhoods, even when competing with greenfield development. Nevertheless, another process is also taking place: especially in urban regions with extensive greenfield development, there is a significant outflow of higher-income households from deprived neighbourhoods. The net result is an increasing concentration of low-income households in deprived neighbourhoods.

**Keywords:** urban restructuring, segregation, neighbourhoods, The Netherlands, residential mobility, new housing development

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## § 5.1 Introduction

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Spatial concentrations of deprived households are often considered problematic, because they are perceived to coincide with problems such as low social cohesion, high unemployment and an accumulation of liveability problems (Bolt et al., 2002; Van Ham et al., 2006; Van Gent et al., 2009). Several European countries have implemented social mixing policies to reduce these spatial concentrations (Galster, 2007). In the Netherlands, these policies take the form of demolition of inexpensive socially rented dwellings in deprived neighbourhoods and replacing them with more expensive

and owner-occupied dwellings targeted at middle- and higher-income households (Kleinhans, 2004; Van Kempen and Priemus, 1999). Especially since 1997, the Dutch Government has, under the label of urban restructuring, actively promoted these mixed tenure policies in deprived social housing neighbourhoods (VROM, 1997).

During the same time period, mass production of new dwellings took place on greenfield locations around the larger cities in the Netherlands (Jókövi et al., 2006). Compared to the existing housing stock, the newly built dwellings on these greenfield locations, are more often owner-occupied, expensive and single family dwellings (De Jong et al., 2008). These dwellings were built to attract middle- and higher-income households, in order to keep these households within the boundaries of the city (Van Dam et al., 2010). Because municipalities were aware that building new neighbourhoods with only dwellings for middle- and higher-income households would increase the concentration of low-income households in the rest of the city, a limited number (to a maximum of 30%) of social rented dwellings were built in those new neighbourhoods (Van Dam et al., 2010).

The study reported in this paper has two objectives. First we focus on urban restructuring and ask whether the policy of demolition and new housing development has been successful in attracting higher-income households to deprived neighbourhoods. Second, we try to assess whether housing development in new neighbourhoods, mainly aimed at middle- and higher-income households, leads to an increased concentration of low-income households in existing neighbourhoods and reduces the success of urban restructuring.

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## § 5.2 Theory

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The term segregation refers to the unequal distribution of population groups over space and therefore to the existence of neighbourhoods where a group is overrepresented (concentrated) while in other areas this group is underrepresented. The availability and spatial distribution of dwellings by type, tenure and price sorts households into different parts of cities (Van Kempen and Murie, 2009). Income segregation and spatial concentrations of low-income households are the consequences of the housing market behaviour of households within a constrained choice set (Bolt et al., 2002). More affluent households will be attracted to neighbourhoods with more expensive dwellings, which offer more prestige, better amenities, larger and higher quality dwellings and fewer social problems (Harris, 1999; Cheshire, 2007). Building more expensive and owner-occupied dwellings widens the choice set of more affluent household, creating opportunities for them to move up the housing ladder (Bolt et al., 2002).

New neighbourhoods with mostly expensive dwellings create opportunities for higher-income households to move out of existing neighbourhoods, while lower-income households stay behind. This can initiate a chain of mobility in which in every neighbourhood the relatively better-off are given the opportunity to move to a better neighbourhood. New neighbourhoods thus fuel the process of income sorting and can thereby lead to increased concentrations of low-income households who are left behind. On the other hand, building new and relatively expensive dwellings within deprived neighbourhoods with an inexpensive housing stock, may attract higher-income households to those neighbourhoods and thereby reduce the concentration of low-income households (Uitermark, 2003).

Housing development in urban restructuring and new neighbourhoods, both targeted at middle- and higher-income households will compete for the same households. In a housing market where few dwellings are available, new dwellings in urban restructuring neighbourhoods are an attractive opportunity for households with high or increasing incomes. However, in housing markets with abundant housing supply, higher-income households in search of a new dwelling have more opportunities, and might be less inclined to move to deprived neighbourhoods. Therefore, urban restructuring in deprived neighbourhoods is expected to be less successful in attracting high-income households in regions with also large-scale housing developments in new neighbourhoods (Van Kempen and Priemus, 2002).

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## § 5.3 Data and methods

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In 2007 the newly formed Ministry of Housing, Neighbourhoods and Integration selected a number of the most deprived neighbourhoods and indicated them as 'priority neighbourhoods' (Aandachtswijken). Following the 1997 policy of urban restructuring, one of the main goals of the policy of the Ministry was to achieve a more mixed population in these neighbourhoods, especially in terms of income (VROM/WWI, 2007). In many priority neighbourhoods extensive urban restructuring programmes have been and are being executed, or have been scheduled for the near future.

In this paper we distinguish three types of neighbourhoods: priority neighbourhoods, new neighbourhoods and other neighbourhoods. New neighbourhoods are defined as greenfield locations on which new residential neighbourhoods have been built between 1999 and 2005. For priority neighbourhoods, we used the selection made by the Ministry, all other neighbourhoods are defined as other neighbourhoods<sup>25</sup>.

We selected three large urban regions (central city and surrounding municipalities) in the Netherlands for this research: Rotterdam, The Hague and Utrecht. We chose to study large cities because concentrations of low-income households are more prominent here. We chose to study three urban regions with totally different patterns of new housing development, because we expect those different new housing development patterns to be related to differences in mobility patterns and spatial sorting. In Figure 5.1, 5.2 and 5.3 the different neighbourhood types in the urban regions of Rotterdam, The Hague and Utrecht are shown.

We used the Dutch Social Statistical Database (SSD). This database contains data on personal characteristics and residence address of all inhabitants of the Netherlands, for each year from 1999 to 2005. From this database, individuals and households can be followed over time and space. It may be used, for example, to trace how people's incomes have developed through the years, whether they have moved house, and which neighbourhood they came from and moved to.

In our analysis we describe the household incomes of individuals who moved between the three neighbourhood types. These mobility flows are based on the residential address of individuals in 1999 and 2005<sup>26</sup>. For example the average income of individuals who moved from priority neighbourhoods to new neighbourhoods is based on all individuals who in 1999 lived in priority neighbourhoods and in 2005 lived in new neighbourhoods.

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25 We used four digit postal code areas to define neighbourhoods. Postal code areas with more than 80% or more than 1000 new dwellings (dwellings built since 1999) are defined as new neighbourhoods, postal code areas included in the priority neighbourhoods policy are defined as priority neighbourhoods, all other neighbourhoods are defined as other neighbourhoods. Postal code areas in cities in the Netherlands have an average size of 1 square kilometre and often have natural borders such as main roads or waterways.

26 Because households change, for instance when individuals start living together, we analysed the mobility patterns of individuals. However, because we know for every individual the income of the whole household and because we weighted individuals in such a way that two individuals living together count as one household, we can describe the households incomes in the mobility patterns.

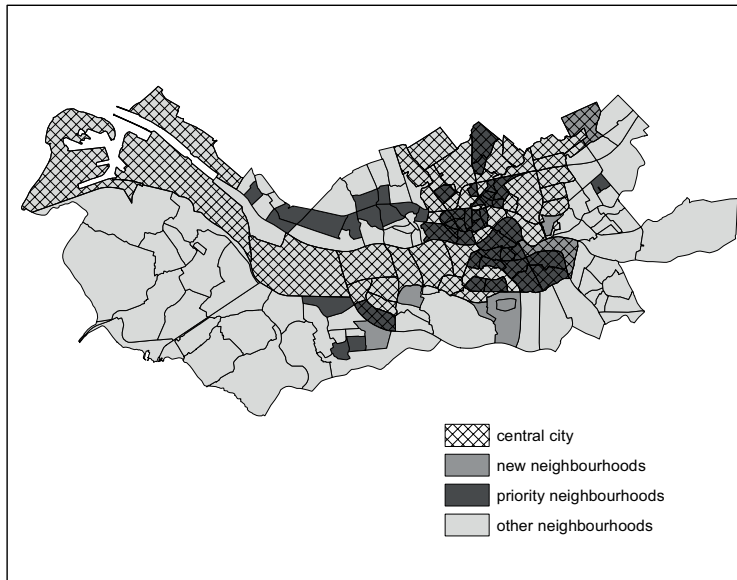


FIGURE 5.1 Rotterdam urban region

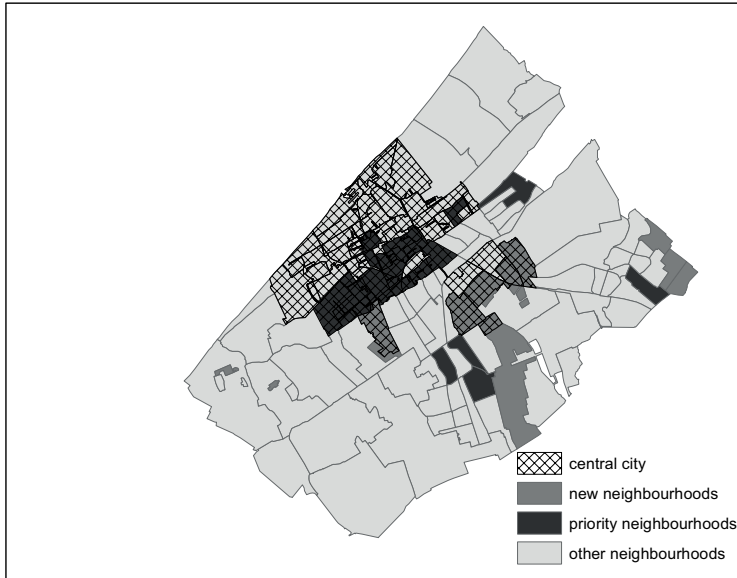


FIGURE 5.2 The Hague urban region



FIGURE 5.3 Utrecht urban region

## § 5.4 Results

### Different spatial patterns of new housing development

There are large differences between Rotterdam, The Hague and Utrecht in the distribution of newly built dwellings over neighbourhoods (see Figure 5.4). In Rotterdam an extensive urban restructuring programme was executed: many inexpensive dwellings were demolished (20.000 demolitions) and replaced with new dwellings. On a smaller scale, also in The Hague urban restructuring programmes were executed (9.000 demolitions). In Utrecht restructuring of existing urban areas had barely started in 2005 (2.000 demolitions) and there were therefore almost no new dwellings located in priority neighbourhoods. Although in Rotterdam and The Hague large numbers of new dwellings were built in restructuring programmes, compared to the total housing stock in priority neighbourhoods and other neighbourhoods the share of new dwellings is small. In both The Hague and Utrecht large scale new neighbourhoods had been developed on greenfield locations, while in Rotterdam housing development on greenfield locations took place on a much smaller scale.

Both dwellings in urban restructuring neighbourhoods and in new neighbourhoods were aimed at middle- and higher-income households, therefore mostly relatively expensive, owner-occupied and single-family dwellings were build. Also to accommodate the increasing qualitative demand for housing, the policy was to add mainly high quality (expensive) dwellings to the market. To prevent concentrations of low-income households in existing city neighbourhoods, up to 30% of the dwellings in new neighbourhoods were targeted at low-income households (mostly social rented dwellings) (PBL 2010).

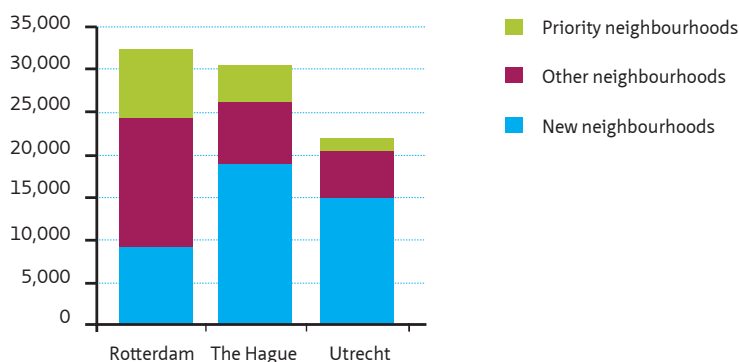


FIGURE 5.4 Newly built dwellings, per neighbourhood type and urban region, 1999-2005

Source: Statistics Netherlands (SSD 1999-2005)

### Income segregation development in three urban regions

Table 5.1 shows the segregation indices of low-income households<sup>27</sup> in the three urban regions in 1999 and 2005. The segregation index (Duncan and Duncan, 1955) measures whether there are neighbourhoods in which low-income households are concentrated or underrepresented compared to the city level average. The index can be interpreted as the share of low-income households that has to move to another neighbourhood in order to achieve an even spread of low-income households over the whole city, or the whole urban region.

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Low-income households are defined as the 20% households with the lowest income based on the income distribution on national level.

In general the share of low-income households is higher in the central cities than in the surrounding municipalities. Therefore the segregation index in the whole urban region will be higher than in the city; in order to achieve an even spread over the whole urban region many low-income households will have to move from the central city to the surrounding municipalities.

The city of The Hague had the highest level of segregation in 1999. Here the segregation of low-income households clearly increased from 1999 to 2005. In Rotterdam and Utrecht, segregation on the regional level was much higher than on city level. On the urban regional level, Utrecht had the highest level of segregation.

		1999	2005
City	Rotterdam	13.4	14.4
	The Hague	17.3	21.3
	Utrecht	11.5	13.6
Urban region	Rotterdam	20.8	21.3
	The Hague	22.1	22.8
	Utrecht	23.3	25.9

TABLE 5.1 Segregation of low-income households, 1999 and 2005

Source: Statistics Netherlands (SSD 1999-2005)

### New dwellings in priority neighbourhoods

Urban restructuring programmes are expected to attract higher-income households to deprived neighbourhoods and thereby to decrease the concentration of low-income households in restructuring neighbourhoods. The question is to what extent new dwellings in deprived urban restructuring neighbourhoods have been successful in attracting higher-income households to those neighbourhoods. Figure 5.5 shows the incomes of households moving to newly built dwellings in existing neighbourhoods.



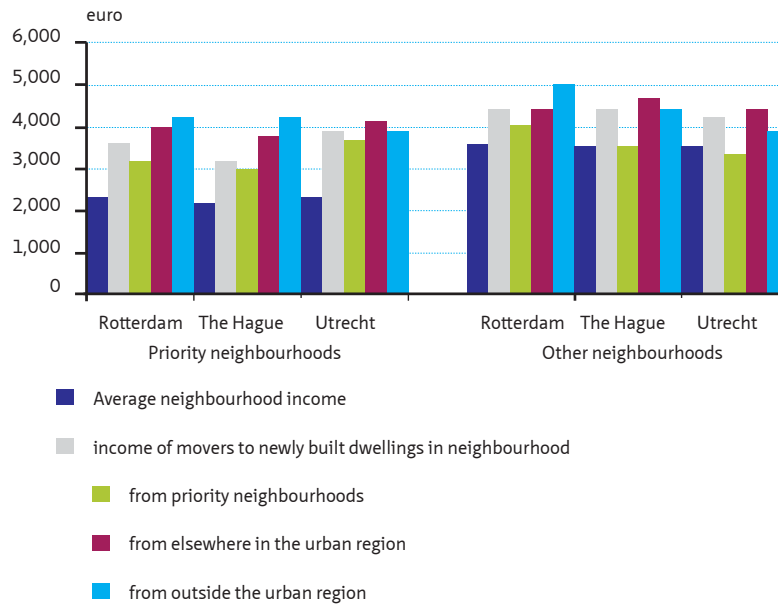


FIGURE 5.5 Average gross monthly neighbourhood income (2005) and gross monthly incomes (2005) of households moving to newly built dwelling in priority neighbourhoods and other neighbourhoods

Source: Statistics Netherlands (SSD 1999-2005)

New housing developments in priority neighbourhoods were found to attract relatively wealthy households. The households that moved within priority neighbourhoods to newly built dwellings as well as those that moved from elsewhere to these dwellings had higher incomes than the other residents of priority neighbourhoods. New housing developments in priority neighbourhoods apparently were successful both in retaining their high-income households and in attracting high-income households from elsewhere.

Compared to Rotterdam, in The Hague and Utrecht many more (mostly expensive) dwellings have been built on greenfield locations. Because of these extra alternatives on the housing market, higher-income households might have been less likely to move to priority neighbourhoods. However, we found the same pattern in all three urban regions. Also when competing with extensive greenfield development, new dwellings in priority neighbourhoods are successful in attracting higher-income households.

In The Hague and especially in Rotterdam, much more new dwellings have been built in priority neighbourhoods than in Utrecht. The pattern that building new dwellings in priority neighbourhoods attracts higher-income households to those neighbourhoods will therefore induce the social mix in priority neighbourhoods in Rotterdam and The Hague more than in Utrecht.

## Selective mobility from priority neighbourhoods

New dwellings built in existing city neighbourhoods are apparently successful in attracting higher-income households to those neighbourhoods. However, the concentration of low-income households in priority neighbourhoods did not decrease. How is this possible? Figure 5.6, in which we focus on the outflow from priority neighbourhoods, shows that especially higher-income households left priority neighbourhoods, while the lower income households stayed behind.

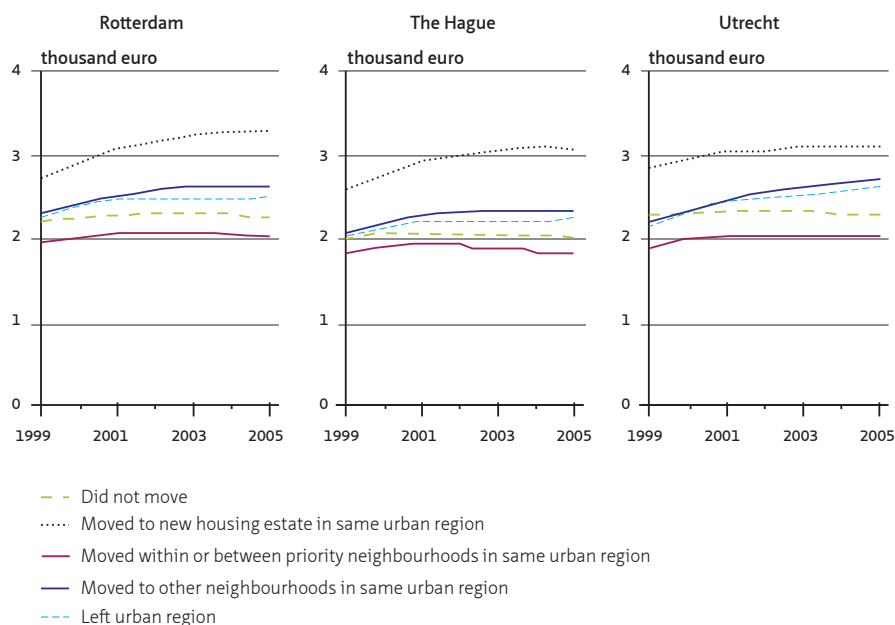


FIGURE 5.6 Average gross monthly household income of inhabitants of priority neighbourhoods in 1999; per housing status in 2005 (adjusted to 2005 price level)

Source: Statistics Netherlands (SSD 1999-2005)

Both the households that did not move and those that moved within or between priority neighbourhoods, had the lowest incomes and these incomes did not, or hardly, increase over the years. Together households that still lived in priority neighbourhoods in 2005 represent three-quarters of the population of priority neighbourhoods in 1999 in Rotterdam and almost 70% in The Hague and Utrecht.

The households that had left priority neighbourhoods had higher and/or increasing incomes. Households moving towards other neighbourhoods or leaving the urban region had relatively low incomes in 1999 but had since experienced an increase in income. The households that moved to new neighbourhoods already had the highest incomes in 1999 and experienced a further increase in income. Six per cent of the households in priority neighbourhoods had moved to new neighbourhoods in The Hague and Utrecht, while this was only three per cent in Rotterdam. New neighbourhoods attracted the households with the highest incomes from priority neighbourhoods, while households with the lowest incomes and no increase in income stayed behind.

### Selective mobility: comparing inflow and outflow

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What are the incomes of households moving into and out of priority neighbourhoods and other (existing) neighbourhoods? In Utrecht the people who moved to priority neighbourhoods have lower incomes than people who stayed within this neighbourhood type, while in Rotterdam and The Hague the income of people who moved to those neighbourhoods is higher than the average income of the households who stayed within these neighbourhoods (see Figure 5.7). The extensive restructuring in these cities has thus led to higher-income movers into priority neighbourhoods. However, in all three urban regions, people who move out of priority neighbourhoods have higher incomes than both movers to those neighbourhoods and stayers and therefore the concentration of low-income households in priority neighbourhoods has increased.

In Rotterdam there are almost no differences in income between the inflow and outflow of other (existing) neighbourhoods. However, in Utrecht and especially in The Hague higher-income households have left these neighbourhoods. Large-scale new housing developments, of mainly expensive owner-occupied dwellings, in these regions have attracted high-income households from existing neighbourhoods. For the outflow from priority neighbourhoods or the inflow to other city neighbourhoods we find no differences between regions with or without large-scale greenfield development.

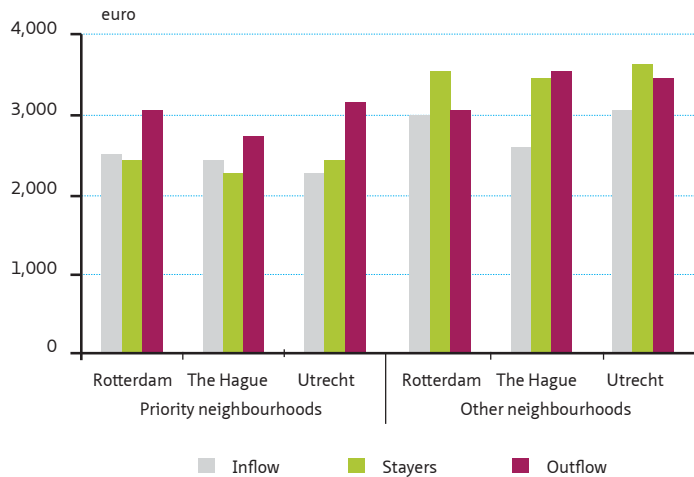


FIGURE 5.7 Average gross monthly household income (2005) of inflow, stayers and outflow, in priority neighbourhoods and other neighbourhoods

Source: Statistics Netherlands (SSD 1999-2005)

## § 5.5 Conclusions

In the Netherlands and many other European countries there is a widespread policy trust in mixed neighbourhoods (Galster, 2007). In urban restructuring programmes in the Netherlands, socially rented dwellings in deprived neighbourhoods are demolished and replaced by more expensive owner-occupied dwellings. Many studies focus on whether mixed income neighbourhoods are better places to live or create more opportunities for individuals (Andersson et al., 2007; Galster, 2007; Kleinhans, 2004). This study, however, focuses on whether mixed tenure policies indeed create mixed income neighbourhoods.

This question is especially relevant in the Netherlands, where, in the same time period, mass production of new, mostly expensive, dwellings took place on greenfield locations around the larger cities. This new housing development might interfere with the goals of urban restructuring policies.

New dwellings within priority neighbourhoods are found to be successful both in attracting higher-income households from elsewhere, and in keeping high-income households within those neighbourhoods, also when they have to compete with large-scale greenfield development within the same urban region.

At the same time, however, households with high or increasing incomes are found to move out of priority neighbourhoods, especially in urban regions with large scale greenfield development. Although new housing development within deprived priority neighbourhoods attracts higher-income households, the incomes of households moving out of those neighbourhoods are higher than the average income of households who move into those neighbourhoods. Because of these selective mobility patterns, the concentration of low-income households increased.

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