Moving Out and Going Down?
A Review of Recent Evidence on ‘Waterbed’ Effects of Assisted Mobility and Housing Restructuring Programs in the United States and the Netherlands

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Abstract

Comparing US and Dutch experiences, this paper seeks to determine whether the demolition of public housing results in ‘waterbed effects’, i.e. the shift of crime and other social problems to nearby fragile neighbourhoods, as a result of residential relocation patterns. Notwithstanding fundamental contextual differences, existing research shows that many relocatees do in fact recluster in low-income areas not much better than the public or social housing sites they moved from. Furthermore US and Dutch qualitative research highlight documents concern among public officials, politicians and community activists that this clustering is resulting in higher crime, increased neighbourhood dissatisfaction (among existing residents), lower school test scores, etc. Few researchers have, however, been able to go beyond correlations and establish cause-effect relations between the in-movement of public/social housing relocatees and increased social problems. Nevertheless existing evidence regarding waterbed effects is compelling enough to warrant expanded and improved monitoring of both relocation and neighbourhood change patterns and to initiate programs to address the concerns of residents in destination.

1. Introduction

Over the last decades, the United States and several European countries have witnessed substantial neighbourhood renewal programs, which attempt to improve the prospects of deprived neighbourhoods and their residents (e.g. Popkin et al., 2004; Andersson & Musterd, 2005; Lawless, 2006). While there is ample research into the effects of such programs on both target neighbourhoods and individual residents, far less attention has been devoted to (unintended) program effects outside target neighbourhoods. For example, is crime displaced to other areas as a result of anti-crime measures in target areas or due to efforts preventing multi-problem families from returning to restructured sites? Or do property values in destination neighbourhoods go down because of uncertainties about the in-migration of public housing displacees? In other words, there is widespread concern about social problems literally moving away from
target areas to nearby blocks or neighbourhoods, because they are strongly connected to the socioeconomic characteristics and behaviour of certain households who change residence.

This issue is especially salient for neighbourhood renewal programs which require substantial relocation of residents from public or social housing slated for demolition. The most notable American example is the U.S. Department of Housing and Urban Development’s HOPE VI program (Popkin et al., 2004). In Europe, a clear example is the Dutch program of Urban Restructuring, which is the physical component of the so-called ‘Big Cites Policy’ (Musterd & Ostendorf, 2008). A common element in these and other European and American renewal programs is that demolition of public or social housing is accompanied by new construction of more expensive rental and owner-occupied housing (Musterd et al., 2003; Kleinhans, 2004; Joseph et al., 2007) as well as the rehabilitation or replacement of the subsidized housing. As a result of these mixed-tenure and mixed income projects, the majority of the original residents often have to move away from the site (e.g. Buron et al., 2002; Popkin et al., 2004; Curley, 2007; Kleinhans & Van der Laan Bouma-Doff, 2008; Gilbert, 2009). Sometimes, these moves are temporarily, but most are permanent, as the number of affordable replacement units (public/social rent) is usually lower than the number of units demolished.

There is a widespread perception among many politicians and community activists, at least in the US and the Netherlands that multi-problem families from restructuring areas often move to and recluster in already fragile nearby neighbourhoods where they cause nuisance, conflict and crime in their new living environment. Thus, existing residents in destination communities may be adversely affected by housing mobility programmes through reductions in neighbourhood quality. Whether they are, in fact, negatively affected, and to what extent, is the focus of this paper. Many Dutch practitioners use the term ‘waterbed’ effects to refer to the aforementioned phenomena. We will use this term in this paper because it is more spe-
fic than “neighbourhood spillovers” a term which typically refers to positive or negative effects of the neighbourhood environment on individuals.

In the US, this issue was ignited by Hannah Rosin’s highly controversial July 2008 *Atlantic Monthly* magazine article (Rosin, 2008) that asserted that HOPE VI demolitions have spurred increases in crime in more peripheral and suburban areas in Memphis, Tennessee. The fact that the article led to a rebuttal by 30 leading American scholars underlines the high relevancy of waterbed effects for both academics and policymakers and practitioners (Briggs & Dreier, 2008). Surprisingly, however, there has been little proper academic research on this matter.

In this paper, we review the Dutch and American literature on ‘waterbed effects’ and problems connected to (forced but usually assisted) residential mobility from public or social housing, slated for demolition. Although we will not systematically compare countries, we propose to identify the key parallels and differences in the extent and nature of ‘waterbed effects’ in both countries. We will show that the debates in these two countries are remarkably similar, despite at least three fundamental contextual differences. Firstly, public housing in the US is operated by semi-autonomous housing authorities whereas in the Netherlands the housing is managed by housing associations. Secondly, social housing constitutes a far higher proportion of the housing stock in the Netherlands (32%) than public housing does in the US (2%). Finally, whereas blacks and, to a lesser extent, Hispanics are disproportionately represented among public housing residents in the US, Surinamese, Moroccan, and Turkish immigrants are disproportionately represented among social housing residents in the Netherlands.

For our review, we conducted a systematic search of well-known literature databases, covering the US and European territory. However, many evaluation studies and government-funded research projects never make it into academic journals or other systematically stored

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1 Our purpose is to extend the literature review beyond the Netherlands, to cover evidence from other European countries as well. This will be done in a later draft.
data systems. Therefore, our search also includes sources of so-called “grey” literature in the US and the Netherlands, and an enquiry among a number of leading housing researchers in Europe and the United States. Finally, we make use of newspaper articles\(^2\) for particular cities like Chicago and Cincinnati.

The aim of our paper is to critically assess the current state of knowledge on ‘waterbed’ effects, i.e. negative spillover effects of forced residential relocation from public or social housing restructuring efforts.\(^3\) Importantly, we distinguish ‘waterbed’ effects from another usage of the term spillover effects, i.e. the ways in which the (changing) socioeconomic characteristics of neighbourhoods (e.g. tenure, income and ethnic mix), positively or negatively affects the social mobility prospects of poor families. We acknowledge a growing body of literature on these subjects, but it appears that far less has been written about the ‘waterbed’ variety. Although ‘waterbed’ effects are the core of our paper, we will pay due attention to other closely related spillover effects of housing and neighbourhood features when they are relevant to our main focus.

The next section explains the methods used in our systematic literature search, especially the nature of the search procedure, the inclusion and exclusion criteria and the way in which we review relevant publications. Section 3 describes the debates among scientists, policymakers and practitioners in the US and the Netherlands. Sections 4 and 5 deal with the results of our review analysis. The final section presents our (preliminary) conclusions.

\(^2\) In this work in progress paper, we cannot yet include this material, partly because the search is still going on. The news articles will be included in a later draft.

\(^3\) When HOPE VI was initiated policymakers assumed that revitalisation would produce positive spillover effects on surrounding communities and a modest literature has emerged dealing with this subject. However, our focus is on negative neighbourhood spillovers, a more contentious political issue in many American cities.
2. Methods

The search procedure

Our literature search procedure examined three primary sources: published journal articles, conference reports and other (unpublished) gray materials, and various news sources about cities dealing with ‘waterbed’ effects.

Journal articles were found through systematic searches of major databases, including JSTOR, the Social Science Research Network, Ingenta, Econlit, Scopus, ABSIS (architecture, cities, urban development, urban design) Current Contents (ISI), ICONDA (International Construction Database) and Web of Science. A useful search engine was Google Scholar.

The search used combinations of the following search terms: Waterbed, Spillover effects, Revitali*, Public housing, Social housing, Mobilit*, Demoli*, and HOPE VI. We limited the search to the years 1980-2009. There was no restriction by geography, although we focused our search of so-called gray literature on the US and the Netherlands. In the Netherlands, the GLIN database (Grey Literature in the Netherlands) was used for this purpose.

After relevant journal articles were found, we solicited information from the authors of the articles on potential gray material or unpublished works, and information about other scholars working on the subject. We also combed the bibliographies of these articles to find other sources. Additionally, we directly approached almost 40 experts on housing and neighbourhood regeneration research, in America and Europe. In the latter case, most of the targeted experts are members of the European Network of Housing Research (ENHR). We asked them to identify studies that they thought would be relevant. In addition, we also posted a query to the Planet listserv, which covers planning academics in the US and Canada.
Finally, we searched major news aggregators for news articles on crime and community conflict related to public housing relocation. These aggregators included Google News and Lexis Nexis. Some of the scholars we solicited provided additional news sources as well.

**Screening and selection of search results**

Using the above procedures we identified only a limited number of academic studies and related (non-academic) publications dealing with waterbed effects due to demolition-related relocation. We refer to these as *first-order studies*. Considering this limited number, we expanded our literature review to include related studies e.g. the extent of clustering of voucher recipients in American cities as well as links between (re)clustering and social problems regardless of whether voucher recipients moved from demolition sites (e.g. HOPE VI projects) or whether the clusters consisted of those with Housing Choice Vouchers (HCV) regardless of whether they received them in connection with public housing restructuring. We refer to this work as *second-order studies*. The main reason for their inclusion is the concern among politicians, practitioners and community activists (see section 2) that (clustering of) “regular” voucher recipients may cause ‘waterbed’ effects in the same way as forced movers from demolition sites do so (if in fact, that is what happens). Another group of studies which emerged from our search concerns spillover effects of subsidised (public/social) housing on nearby property values. However, these studies are not considered in the remainder of this paper, as we are primarily interested in spillover effects of residential moves, especially those associated with housing vouchers, not of subsidised housing.

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4 As mentioned in footnote 2, this material will be included in a later draft.

5 Currently, the search for and analysis of Dutch studies on clustering of relocatees is not finished yet, so this material will be included in a later draft.

6 For an overview of relevant US studies, see Nguyen (2005) the Planet@ Listserv posting of Rachel Bratt, January 23, 2010.
Review procedures

The final list of first-order and second-order studies was analysed in depth. We especially looked for the stated aim of the research, data sources, the study area, the primary unit(s) of analysis, the main indicators of neighbourhood change, and the main conclusions. Tables 1 through 3 compare the key studies with respect to these dimensions.

3. Debates in the US and the Netherlands

United States

The issue of ‘waterbed’ effects in the US is part of broader national concerns about the locational trends of voucher housing. Around 1980 American low-income housing policy shifted from subsidies to developers to tenant subsidies, that is, housing vouchers. Concerns about the spatial concentration of voucher recipients have steadily grown over the last 15 years as US cities have implemented HUD’s 7 HOPE VI public housing restructuring policies. HOPE VI (Housing Opportunities for People Everywhere) was established in 1993 to redevelop the ‘most severely distressed’ public housing projects in the nation (Popkin et al., 2004).

Amongst others, policy measures include demolition of project-based public housing, the relocation of residents via vouchers to the private market, and the development of mixed-income replacement housing.

Over time, HUD has expanded its use of the Housing Choice Voucher Program (HCVP, formerly known as Section 8) to relocate tenants from HOPE VI. The HVCP is unique among HUD’s housing subsidy programs as it makes use of the private rental market to assist low-income families in need of affordable rental housing (Devine et al., 2003, p.1). By 2006, when funding was greatly reduced, HOPE VI had demolished more than 78,000

7 HUD stands for U.S. Department of Housing and Urban development.
units, and 10,400 additional units were in line for redevelopment. Of the 103,600 replacement units being constructed, only 57,100 will be “deeply subsidized” public housing units (Popkin et al., 2004). In other words, “there is no one-for-one replacement requirement, only some demolished units are earmarked for low-income replacement units, with the rest defined as either affordable or market-rate housing, both beyond the economic means of former public-housing tenants. Thus, while the program develops replacement housing with a mixed-income design, most relocated residents cannot move back” (Oakley & Burchfield, 2009, p.590). Return rates of relocatees to redeveloped HOPE VI sites range from approximately 19 to 46 per cent, with a few exceptions above these figures (Buron et al., 2002; Smith et al., 2002; Popkin et al. 2004; Curley, 2007; Oakley & Burchfield, 2009).

Recently, the spatial distribution of voucher housing recipients stemming from public housing restructuring has come under media scrutiny in terms of perceived impacts of voucher concentration on neighbourhoods (Briggs & Dreir, 2008; Eckholm, 2008; Moore, 2008; Rosin, 2008, Venkatesh, 2008). Rosin’s controversial Atlantic Monthly article “American Murder Mystery” (2008, mentioned above) argues that in Memphis HOPE VI relocatees with vouchers were responsible for a sharp rise in gang violence and murders in suburban and suburban-type communities away from the inner city. While this article does not produce compelling empirical evidence that voucher concentrations produce negative outcomes, the article does highlight the intense community conflict over voucher clustering in some neighbourhoods. Goetz (2003) notes that this media scrutiny and resultant community opposition is hardly surprising in the light of widely publicized social scientific writings on concentrated poverty. Newspapers and other media have picked up these themes and publicized them. Suburban residents listening to or reading about these reports on poverty concentration have become more attuned to possible effects on their communities stemming from subsidized housing or demolition-related move-ins.
Netherlands

The Netherlands has recently witnessed a growing political debate about ‘waterbed’ effects. This discussion is primarily connected to the national ‘40 Neighbourhoods Approach’ (40-wijkenaanpak, see Priemus 2008). National policymakers have been very keenly aware of the potential danger of waterbed effects, and have undertaken efforts to spot such effects in an early stage. Since 2007, the start of the current neighbourhood policy, the term ‘waterbed’ effects has appeared several times in official publications of the Second Chamber of the Dutch Parliament. In most cases, the discussion has been connected to the publication of two research reports dealing with the (potential) waterbed effects of urban restructuring (Slob et al., 2008; Leidelmeijer et al., 2009). The same applies to newspaper articles. Before 2008, the term ‘waterbed effect’ almost exclusively appeared in connection to crime prevention measures or police actions against nuisance of drug abuse; not in connection to housing.

Since 1997, Dutch urban restructuring policy has aimed to increase the variety of residential environments in early post-war neighbourhoods, to improve the attractiveness of the housing stock, and to strengthen the reputation and housing market position of these districts (MVROM, 1997; Kleinhans, 2004). Although urban restructuring is a national, government-driven policy, housing associations are the key actors, since they own almost all rented housing in post-war neighbourhoods earmarked for restructuring. Since 1997, more than 121,000 social rented dwellings have been demolished. The number of new construction units is even higher, although the majority of the replacement units are more expensive rental or owner-occupied dwellings (Curley & Kleinhans, 2010).

While many residents of demolished social housing cannot return to new, more expensive rental or owner-occupied housing, substantial numbers may still be able to move within or eventually return to their previous neighbourhood, either to a new affordable social housing
unit or an existing apartment in the social stock. To a great extent, this is made possible by several legal compensation mechanisms for relocatees, such as an urgency status on the market for social housing (for a detailed description, see Kleinhans, 2003; Kleinhans & Van der Laan Bouma-Doff, 2008; Bolt et al., 2009). An Internet-published survey of the Dutch KEI Expert Centre Urban Regeneration (2006) revealed that intra-neighbourhood and return moves range between nil and 65 per cent, with an average of approximately 20 to 30 per cent. Of course, this figure is highly dependent on the local context, the specifics of local restructuring programs and the delineation of neighbourhoods, both in administrative terms and residents’ perceptions. Sometimes, local authorities and housing associations include a ‘right to return’ in the local program’s conditions. However, this is not a universal Dutch practice.

**Netherlands-US commonalities**

Debates in both the Netherlands and the US focus on three questions related to waterbed effects (e.g. Ellen & Turner, 1997; Leventhal & Brooks-Gunn, 2000; Sampson et al., 2002). First, to what extent are relocatees clustered spatially? Second, to what extent is the spatial clustering of relocatees linked to higher crime, reduced property values, and other social problems in destination areas? Thirdly, to what extent does the (re)clustering of relocatees actually cause rises in crime and other social problems as well as declines in property values? That is, is there evidence that increases in crime truly reflect with criminal acts carried out by public or social housing relocatees or that lower school test scores stem from the arrival of low-performing voucher household children at local schools?

A difference between the Dutch and US discussion is the composition of the relocation group. As mentioned, the issue of ‘waterbed’ effects in the US is part of broader national conversation about the locational trends of housing voucher recipients. HOPE VI relocatees comprise only a small proportion of the total Housing Choice Voucher (HCV) population. Although
the HCV program is often seen as part of a broader poverty deconcentration strategy, in reality HCV recipients choose where to live and many move to higher-poverty areas. Neighbourhoods in the US experiencing waterbed-related controversy may or may not be experiencing immigration of relocatees from demolished public housing. In contrast, the Dutch waterbed discussion is almost completely restricted to urban restructuring contexts. Clustering can be perceived as a highly essential, but not necessary prerequisite for waterbed effects in destination communities. “Numbers are a helpful indicator that can highlight areas where potential problems may exist but they cannot tell a neighbourhood’s story. One area may have fifteen relocatees with no change in community standards whereas another can have only five and a surplus of trouble” (Smith et al., 2002, pp. 40-41; see also Kleinhans & Slob 2008, p. 123). What is clear is that there is a need for both qualitative and quantitative research on waterbed effects to unearth whether relocatees actually cause trouble beyond the levels of problems already occurring in the destination areas before the arrival of relocatees.

4. Results from first-order studies on ‘waterbed’ effects

Of all the references found through our systematic literature search, only a few directly deal with the central topic of our review, i.e. negative spillover effects of forced residential relocation from public or social housing restructuring efforts on nearby neighbourhoods and communities. These, the first-order studies will now be discussed. Tables 1 and 2 compare some of the most important first-order studies from the Netherlands and the US. We begin with the Dutch studies (see Table 1).

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8 In direct contrast, low-income households participating in the special mobility programs such as Gautreaux and Moving to Opportunity (experimental group) are required to relocate to low-poverty and/or low-minority neighbourhoods (see e.g. Devine et al., 2003, p. 1; Greenbaum et al., 2008, p. 207; Varady, 2010).
### Table 1. Dutch studies of ‘waterbed’ effects connected to demolition of social rented housing (first-order studies)

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Stated aim</th>
<th>Data sources (extent, samples)</th>
<th>Research areas</th>
<th>Primary unit of analysis</th>
<th>Main indicators</th>
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<tr>
<td>Veldboer et al. (2007)</td>
<td>To assess the extent to which Hoogvliet has been able to fulfil the promise of upward social mobility for every individual resident in Hoogvliet since the start of the regeneration program in 1999 (translation ours)</td>
<td>- Semi-structured interviews and focus groups with ± 85 residents, and professionals involved in the regeneration - Large-scale survey among all residents who have remained in Hoogvliet since the start of the regeneration program in January 1999 - Analysis of municipality population database.</td>
<td>Hoogvliet, a borough of the city of Rotterdam. Hoogvliet part consists of nine administrative neighbourhoods</td>
<td>Neighbourhoods (as perceived by residents)</td>
<td>- Socioeconomic features of all residents, incl. relocatees within the area of Hoogvliet - A range of indicators of upward social mobility, incl. changes in housing situation - Perceived n-h development (decline, improvement) - Perceived n-h progress for movers within Hoogvliet</td>
<td>- Only indications of waterbed effects - Many interviewees perceive waterbed effects (neighbourhood decline) in specific parts of Hoogvliet due to the influx of relocatees from other, heavily restructured parts of Hoogvliet. - This observation is made both by longer term residents, (voluntary) movers within Hoogvliet and also by forced relocatees themselves.</td>
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<td>Slob et al. 2008</td>
<td>“To provide insights in the extent to which area-based policies results in waterbed effects” (translation ours).</td>
<td>- Literature review (unsystematic) - Interviews with 40 local professionals - Surveys among relocatees and residents of important destination areas of relocatees</td>
<td>- The most important destination areas of relocatees in 3 cities - A control n-hood for each destination area, characterised by a low influx of relocatees (In total 6 study areas)</td>
<td>Neighbourhoods (administrative level)</td>
<td>- Satisfaction with the n-hood - Perceived n-h development (decline, improvement), both in general and for a range of social and physical features - Perceived influx of new residents and of relocatees - Perceived tensions</td>
<td>- Only indications of waterbed effects - Although relocatees do disperse over the city, they often move to nearby areas, to n-hoods with much social rented housing, and to n-hoods with many non-western immigrants - Low influx numbers of relocatees, but they are generally held responsible for problems (by incumbent residents in destination areas). - Residents in destination neighbourhoods are much more negative about the development of and conditions in their n-hood than residents in control neighbourhoods - Significant destination neighbourhoods are likely to become ‘problem areas’ in near future</td>
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<td>Author(s)</td>
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| Van Paassen (2008) | “…to provide more insight in the re-location of concentrations of deprived resident groups and/or of social problems, i.e. waterbed effects” (translation ours). | - Analysis of municipality database of relocatees in the years 2004-2006, containing individual socioeconomic characteristics as well as average income (per capita) and population composition data of destination n-hoods.  
- Interviews with 12 local professionals, mostly of housing associations. | City of Amsterdam | Neighbourhoods (administrative; (buurtcombinatie)) | - Socioeconomic features of relocatees, neighbourhoods of origin & destination n-hoods  
- Relocatees’ moving patterns  
- Occurrence of reported disorder in destination areas | - Only indications for waterbed effects.  
- Relocatees do disperse over the city, but significant shares (30 per cent or more) move within the same or to nearby neighbourhoods  
- Relocatees relatively often move to low-income n-hoods with many non-western immigrants. This especially applies to the poorest households.  
- The result is a new or stronger concentration of deprived residents in already poor n-hoods and a rise of perceived disorder in destination n-hoods which received disproportionately many relocatees (causality not proven)  
- Relocatees with a track record (nuisance) are deliberately barred from newly built dwellings. |
| Leidelmeijer et al. (2009) | “To give a first impression of the occurrence of potential waterbed effects in those cities where the national ‘40 National Priority Areas in 18 cities, with special attention to 12 of these areas in which waterbed effects are most likely to occur (N=40, n=12) | - ‘Liveability Barometer’  
(Leefbaarometer): database with a modelling approach predicts a composite score of ‘liveability’, based on 49 indicators. These indicators have a ‘proven’ statistical effect on residents’ overall judgement of their living environment.  
- Additional interviews with local professionals and analysis of residential moves | 40 National Priority Areas in 18 cities, with special attention to 12 of these areas in which waterbed effects are most likely to occur (N=40, n=12) | Neighbourhoods (administrative level) | - Predicted ‘liveability’ on 4-digit zip code level for almost all administrative n-hoods.  
- Development of ‘liveability’ scores (2006-2008) in the 40 National Priority Areas, the adjacent neighbourhoods, and comparison with the trends in the city and the region. | - Only a few indications of waterbed effects, in areas with specific relations with National Priority Areas, i.e. where many relocatees move to, or where low-income households are most likely to settle.  
- Destination areas are other vulnerable neighbourhoods, often also subject to policy.  
- Impossible to disentangle policy effects and more general developments. |
Dutch studies

Dutch reports/articles that deal with waterbed ‘effects’ usually are connected with issues of crime and crime prevention (for a review, see Bernasco et al., 2006). Professionals and community activists assert the existence of negative waterbed effects but usually do not provide clear examples or more than anecdotal evidence (Ouwehand et al., 1999; Helleman & Wassenberg, 2004; Van Bergeijk et al., 2008) and as a result, are of limited value. A few studies do, however, offer evidence to support assertions about ‘waterbed’ effects (see Table 1).

At the end of section 3, we asserted that clustering of relocatees is an essential, but not necessary prerequisite for waterbed effects in destination communities. The Dutch studies in Table 1 do not provide strong evidence for clustering, but highlight the fact that relocatees make short distance moves to nearby neighbourhoods that are vulnerable to decline. These are usually neighbourhoods with large shares of social rented housing and non-western immigrants. Moreover, these are areas likely to be targeted for future restructuring efforts. These findings are themselves quite worrisome because restructuring seems to beget more restructuring. The question that logically follows from the above is: what do the studies tell about ‘waterbed’ effects?

Veldboer and colleagues (2007) have assessed upward social mobility patterns of individual residents in Hoogvliet, a borough of the city of Rotterdam. They particularly sought to uncover how residents who remained or moved within Hoogvliet were affected by the intensive regeneration program which started early 1999. Although ‘waterbed’ effects were not a subject of this research, the issue came up often and spontaneously in the interviews with residents and a few professionals. Many respondents perceive waterbed effects in the form of neighbourhood decline, disorder and insecurity in specific sub-neighbourhoods of Hoogvliet which were, to date, relatively unaffected by physical restructuring measures. Many interviewees blame the physical restructuring measures, i.e. the influx of relocatees from other re-
structured sub-neighbourhoods in Hoogvliet for the decline. Interviewees assert that relocatees cause nuisance, tensions, threats and sometimes (petty) crime. Interestingly, this pessimism is shared by longer term residents, voluntary movers within Hoogvliet and also by some of the forced relocatees themselves. Data from the bi-annual Liveability Monitor Hoogvliet (Leefbaarheidsmonitor Hoogvliet) confirm downward or stationary trends for some of the indicated sub-neighbourhoods, but there is no empirical evidence for a direct relation with between the influx of relocatees and neighbourhood decline indicators.

In a controversial study, Slob et al. (2008) compared three neighbourhoods characterised by a relatively high influx of relocatees with three control neighbourhoods lacking such a strong influx. They found that residents in the former group were more dissatisfied with neighbourhood conditions and also were less confident about the future. Regression analyses indicate that these differences remain even after differences in population composition of destination and control areas are taken into account. Moreover, compared to the control neighbourhoods, residents in destination neighbourhoods more often report an influx of ‘new residents’, as well as tensions between incumbent residents and newcomers.

Van Paassen (2008) conducted a detailed analysis of the socioeconomic characteristics and moving distances of more than 5,300 forced relocatees in Amsterdam (2004 to 2007). The municipal database also included data on average income (per capita) and population composition in destination areas. Van Paassen found a meaningful degree of clustering. That is, significant shares of the relocatees (30 per cent or more) moved either within the same or to nearby neighbourhoods. Moreover, relocatees often moved to low-income neighbourhoods with high shares of non-western immigrants. The moving patterns of the poorest relocatees highlighted this last finding. Van Paassen observes the development of new or stronger local concentrations of deprived residents in already poor neighbourhoods. Furthermore the practi-

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9 Such as litter on the streets, external neighbourhood reputation, population composition and problems with youths.
tioners who were interviewed, some of whom several were directly involved in relocation counselling, perceived an increase in social disorder in certain destination neighbourhoods that received disproportionately large numbers of relocatees. Interestingly, several housing associations try to prevent ‘waterbed’ effects in restructured blocks by restricting relocatees with a track record of nuisances from moving into newly built dwellings.

Finally, Leidelmeijer et al. (2009) recently produced a baseline study of waterbed effects as part of research on the national ‘40 Neighbourhoods Approach’ (see section 3). Their conceptualisation of ‘waterbed’ effects is much broader than the spillover effects of forced relocation due to restructuring of social housing. It also includes the effects of police actions against drug-related nuisance, loitering youths and crime prevention. In such cases, repressive actions or prevention (e.g. CCTV) often result in relocation of the related nuisance to other locations where such measures are not in force. Their analyses is based on a complicated modelling approach in which they predict composite ‘liveability’ scores on a 4-digit zip code level for almost all administrative neighbourhoods in the Netherlands. Leidelmeijer and colleagues found some evidence waterbed effects in neighbourhoods that had experienced an influx of many relocatees. Moreover, they find that the most likely ‘victims’ of waterbed effects are other vulnerable neighbourhoods, often ones where regenerations policies are being carried out. Leidelmeijer et al. (2009) explicitly label their study as a baseline report and emphasise the continuing necessity of locally-based research to actually detect waterbed effects. Compared to other Dutch researchers, Leidelmeijer acknowledges the difficulty in disentangling cause-effect relationships in studying neighbourhood spillovers.

While several Dutch studies provide evidence of perceptions of waterbed effects few if any empirically document these effects with recorded crime or other data. Nor are these studies able to draw causal inferences at household level about whether and how relocatees created social problems at destination communities, if indeed that was the case. Dutch studies
suffer from other methodological shortcomings which limit their utility for policymaking.

Firstly, most studies rely on cross-sectional designs whereas ideally the research should track households from social housing to destination communities. Secondly, with the exception of Leidelmeijer et al. (2009), they fail to consider other possible explanations for changes in social problems. For example, increases in neighbourhood crime could reflect city-wide trends.

**US studies** (Table 2)

Churchill et al.’s 2001 HUD funded study highlights the extent to which politicians, practitioners and community activists across the US are concerned about ‘waterbed’ effects. The authors found that at all eight study sites (which ranged from small projects to fairly large district areas within cities or suburban counties) rising crime, falling test scores and anti-social tenants created community conflict. The weak administration of the Section 8 housing voucher program was a major cause of the problems. Administrative flaws included “(1) failure to monitor housing market change and locations of Section 8 housing, (2) insufficient attention to assisting families to move to a broad range of neighbourhoods, (3) inadequate attention to rent reasonableness and housing quality standards, (4) insufficient attention to Section 8 household behaviour, and (5) unresponsiveness to community complaints.” (p. ii). Moreover, one of Churchill et al.’s case studies (Patterson Park, Baltimore) showed HOPE VI relocatees clustering in only one part of the community, the part where poverty rates were highest and ownership rates lowest. Voucher recipients comprised less than the 10 percent of households in all of Patterson Park but housing voucher density was much higher in the high poverty, low-ownership neighbourhood. Using 10 percent as the threshold for identifying voucher communities (using census tracts as proxies for communities) can be deceptive because of variations in voucher density within these census tracts.
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<td>Churchill et al. (2001)</td>
<td>To identify “the conditions that precipitate local opposition to the Section 8 program and the strategies that are effective in mitigating potential or real conflicts” (p.1).</td>
<td>- Key informant interviews&lt;br&gt;- Published information on the Program and other secondary sources.</td>
<td>Fairfax County, VA, Montgomery County PA, Lynn MA, Baltimore, Cook County IL, Camden County NJ, San Antonio, Syracuse</td>
<td>Neighborhoods</td>
<td>Indicators of the perceived quality of life such as crime, test scores, uncivil behaviour, etc.</td>
<td>At all sites, problems like crime, falling test scores and anti-social tenants created community conflict. Conflict resulted from “(1) failure to monitor housing market change and locations of Section 8 housing, (2) insufficient attention to assisting families to move to a broad range of neighborhoods, (3) inadequate attention to rent reasonableness and housing quality standards, (4) insufficient attention to Section 8 household behavior, and (5) unresponsiveness to community complaints.” (p. ii)</td>
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<td>Venkatesh et al. (2004)</td>
<td>This report examines the relocation of public housing residents from Chicago Housing Authority (CHA) developments during 2003 including patterns of relocation, the challenges that relocations experienced, and the way public housing transformation affected the structure and functioning of gangs. This study focuses on whether CHA helped families move into “opportunity areas” with a poverty level no more than 23.49 percent and no more than 30 percent African American.</td>
<td>- Socioeconomic data on all 887 families relocating during 2003&lt;br&gt;- Observation of, and interviews with organizations that participated in the relocation process&lt;br&gt;- Interviews with many relocated families.</td>
<td>Cook County, Illinois (which includes but is not limited to the City of Chicago)</td>
<td>Individual households</td>
<td>Authors use 23.49% poverty rate for defining benchmarks for an &quot;opportunity area&quot;.</td>
<td>- Four-fifths wanted to move back to redeveloped public housing. Family struggles to remain “lease compliant” affected their ability to move back to redeveloped public housing. Virtually all families who moved into private housing relocated to non-opportunity areas. - Lack of coordination between Chicago Housing Authority and Chicago Department of Human Services made it difficult to relocate effectively, esp. “hard to house” households. - Most (56%) reported being happy about their relocation to private housing. Some however reported having problems with their landlord and safety still remained a concern for many. Venkatesh et al. do not say what these land-</td>
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<td>Venkatesh et al., continued</td>
<td>Lord-tenant problems are, who was at fault or whether members of relocatees' households were responsible for some crime problems.</td>
<td>- In-depth, semi-structured interviews with 41 HOPE VI relocated household heads and 39 incumbent home owners (selected randomly). - Census data and other neighborhood indicators - Review relevant documents, secondary sources and news stories - Regular participation in neighborhood meetings and events over a period of three years.</td>
<td>Two neighborhoods (census tracts) in Tampa, Florida</td>
<td>Individual households (i.e. relocatees and incumbent home owners)</td>
<td>Neighborhood experiences and perceptions: thoughts about the HOPE VI relocations; social ties with neighbors, kin, and persons of influence; use of neighborhood facilities; feelings about the future and memories of the past; and the activities and wellbeing of children.</td>
<td>Relocated residents in both areas had few ties with non-HOPE VI residents. Disaffection of incumbent homeowners due to perceived property devaluation and their families made less safe by this program. Tensions are greatest between older white homeowners and adolescent children of relocated African American families, which resulted in organized resistance of the first. “Most problematic is that deconcentration is founded on the assumption that poor people are bad neighbors […] To their new neighbors in relocation sites, however, this rationale effectively signals that the HOPE VI program is designed to disperse problem families, at the immediate expense of those unfortunate enough to live near to where they land.</td>
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<td>Greenbaum et al. (2008)</td>
<td>“In this paper we examine […] questions through the lens of a federal housing program (HOPE VI) that utilizes “assisted mobility” to improve social opportunities for low-income families. We present data from a study in two neighborhoods in Tampa, Florida—low poverty and high poverty—where large numbers of former public housing residents were resettled in 2000. Our goal was to assess the social impacts of these moves, on both the relocated families and their new neighborhoods.</td>
<td>- In-depth, semi-structured interviews with 41 HOPE VI relocated household heads and 39 incumbent home owners (selected randomly). - Census data and other neighborhood indicators - Review relevant documents, secondary sources and news stories - Regular participation in neighborhood meetings and events over a period of three years.</td>
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<td>Popkin (2009)</td>
<td>This paper examines the Chicago Family Case Management Demonstration: &quot;one model for serving the needs of the most vulnerable public and assisted housing families.&quot; (p.4)</td>
<td>The Urban Institute is &quot;conducting a rigorous evaluation of demonstration, including an analysis of administrative data, baseline and follow-up resident surveys, comparison to residents in CHA developments, and a cost-effectiveness analysis.&quot; (p.6)</td>
<td>Chicago, Illinois</td>
<td>Individual households</td>
<td>A comprehensive approach to quality-of-life taking into account physical and mental health, employment, education, and so forth.</td>
<td>is little wonder that positive social incorporation has not ensued&quot; (p. 222).</td>
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<td><em>Work in progress</em></td>
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<td>- Preliminary results provide a more nuanced picture of the hard-to-house population and a typology for targeting services correctly. Up to now many of the hard-to-house have relocated to other troubled developments, creating the danger that these communities will become more distressed [a clear waterbed effect]. If these families are to be relocated from these traditional public housing developments it will be essential to provide intensive social services tailored to the needs of each group. &lt;br&gt;- High-risk residents &quot;have serious physical and mental health challenges, with high rates of poor health, depression, anxiety, and substance abuse…(they) are the group for whom intensive case management models are most likely to pay off in terms of keeping them out of the homelessness, child welfare, and criminal justice systems.” (p.12)</td>
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Venkatesh and colleagues (2004) observe that as part of Chicago’s HOPE VI program many public housing residents either choose to or are forced to move to another traditional public housing development. Such moves can increase the concentration of poverty at such developments, thereby worsening social ills. They suggest that Chicago’s massive public housing transformation has led to a shift in gang violence from the “projects” to more peripheral parts of the city. Their research report fails to provide statistical evidence that HCV householders are directly the responsible for crime in the destination neighbourhoods.

Anthropological research of Greenbaum et al. (2008) has focused on experiences of HOPE IV relocatees and their new neighbours in Tampa, Florida. Semi-structured interviews with relocatees and longer term residents show that relocatees were highly isolated in the new neighbourhoods, and that they frequently keep their children inside from fear of drug dealers and gangs. Moreover, they experienced almost no positive impact on employment or health from moving. Home owners believe that relocatees bring crime and lower property values. The home owners interviewed very rarely made social contact with the HOPE VI relocatees, and simultaneously reported decreased neighbourhood social activity once relocatees moved in. Greenbaum et al. conclude that “the disaffection of the incumbent homeowners […] is rarely mentioned in the literature on deconcentration. These attitudes and the actions that often follow (both fight and flight) are, however, having deleterious effects on all concerned” (2008, p. 221). They describe tensions and the resulting negative effects for both relocatees and home owners.10

In a recently issued report, Susan Popkin (2009), one of the most prolific scholars in the field of HOPE VI revitalization, highlights the high proportion of “hard-to-house” families in Chicago public housing that has been demolished or that is slated to be demolished. The “hard-to-house” category includes householders with a criminal record or who live in a

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10 Churchill et al. (2001) make the very same point, i.e. that population movements initiated by HOPE VI demolition are often perceived to be problematic, and that these perceptions are not without a basis.
household where someone else is involved in crime. Popkin indicates the need to provide in-
tensive social services to these people whether they move into private rental housing, to tradi-
tional public housing, or back to the redeveloped mix-income community. Although Popkin
does not say so explicitly it seems clear that residents’ concerns about the inmovement of
HOPE VI families have some basis in reality.

5. Results from second-order studies

As mentioned in section 2, this paper also includes an assessment of related studies that are
just outside our core focus. Below, we analyse studies on the extent of clustering of voucher
recipients in American cities as well as links between (re)clustering and recorded (social)
problems regardless of whether voucher recipients moved from demolition sites such as in
HOPE VI projects. Table 3 presents an overview of relevant second-order studies.

Clustering of housing voucher recipients

Devine et al.’s (2003) widely quoted national study implies that housing voucher recipients
are not concentrated spatially. In almost 90 percent of all census tracts with any voucher re-
cipients, the program accounts for less than 5 percent of all households. In just under three
percent of the neighbourhoods where the program is found, HCV utilizes at least 10 percent
of the housing stock. But where vouchers are clustered, the clustering is in high-poverty,
mostly minority central-city neighbourhoods. Enough of these clusters exist in American cit-
ies to present major challenges to governmental officials, especially in this period of eco-
nomic downturn.

11 As mentioned above our search for and analysis of Dutch studies on clustering of relocatees is not finished yet,
this material will be included in a later draft.
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| Galster et al. (1999) | "This article statistically examines the sales prices of single-family homes surrounding Section 8 sites first occupied between 1991 and 1995 in Baltimore County" (p.879). | - Regression analysis is used to examine the impact of different housing and neighborhood attributes on housing prices including whether a home was close (e.g. within 500 feet) to a site occupied by one or more voucher households.  
- Focus groups with residents in neighborhoods which are differentially affected by declines in housing prices. | Baltimore County Maryland (which is politically distinct from the city of Baltimore) | Individual house sale prices                                                                                       | Housing prices are used as an indicator of neighborhood quality                                                | - In low-valued or moderately valued census tracts experiencing real declines in values since 1990, Section 8 sites and units located in high densities had a considerable negative impact on prices within 2,000 feet. Beyond a certain number of Section 8 households in any neighbourhood (tipping point at six or more within 500 feet), decline in housing values.  
- The adverse impacts of clusters of voucher families are more likely to occur when affordable housing is clustered and located in disadvantaged and declining communities.  
- The focus group results complement the statistical findings. Homeowners, especially in the most vulnerable neighborhoods are concerned that Section 8 is contributing to racial and cultural shifts, and increased levels of crime and physical deterioration. |
| Devine et al. (2003) | “This study describes the location of affordable housing and the locational patterns of HCV participants. In addition, it examines associations between locational patterns and both participant and neighborhood welfare. Extending previous research, […] HCV location patterns and impacts in the 50 most populous metropolitan areas, incl. central cities and suburbs. | - HUD’s Multifamily Tenant Characteristics System (MTCS), a national data base with critical information about HCV participants  
- Census data (1990) | The 50 largest (i.e. most populous) Metropolitan Statistical Areas (MSAs) in the US  
- Individual households and neighborhoods (here equated to census tracts) | Per cent voucher housing in the MSAs and neighborhoods within the 50 MSAs | - In almost 90 percent of all census tracts with HCV recipients, the program accounts for less than 5 percent of all households. In just under three percent of the neighbourhoods where the program is found, HCV utilizes at least 10 percent of the housing stock (p. ix).  
- There are very few neighborhoods where HCV units have become a significant share of the total stock, and these, generally, have high poverty levels (p. x). |
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<td>Wang et al. (2008)</td>
<td>“In this article, we aim to answer the following four research questions: - To what extent has the HCVP shifted to suburbs between 2000 and 2005? - To what extent has the HCVP helped to deconcentrate poverty? - To what extent has the administration of the HCVP led to a decreased propensity for recipients to cluster spatially? - To what extent have these hot spots changed between 2000 and 2005?</td>
<td>- Socioeconomic and housing characteristics of the studied metropolitan areas - Data on HCVP recipients - Census block group data on % African Americans, % Hispanics, % households below poverty, median household income, number of rental units</td>
<td>Eight metropolitan areas (New York, Baltimore, Chicago, Cincinnati, Miami, Houston, Los Angeles, and Phoenix)</td>
<td>Census block groups</td>
<td>Occurrence of ‘hot spots’, i.e. areas with a high density of voucher recipients. Distinction between four types of ‘hot spots’: Ongoing, Disappearing, Emerging and Non-hot spot areas.</td>
<td>“In general, the results should dampen expectations concerning the potential effect of the HCVP on poverty deconcentration. First, minimal evidence suggested that HCVP was shifting to the suburbs [...]. Second, little indicated that the HCVP was promoting poverty or minority deconcentration [...]. Third, no evidence emerged to show a decline in HCVP clustering [...]. Fourth, the results also failed to show that the hotter the housing market, the greater the degree of concentration of HCVP households in hot spots [...]. Finally, the results show that growth in the HCVP between 2000 and 2005 has affected clustering patterns in different metropolitan areas in different ways” (p. 88).</td>
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<td>Varady et al. (2010)</td>
<td>“This paper seeks to add to the limited research on the spatial concentration of housing voucher recipients and the extent to which HCV programs promote poverty deconcentration and racial desegregation.”</td>
<td>Hot spot analysis is applied to 2000 and 2005 data on Housing Choice Voucher (HCV) program participants in Hamilton County, Ohio, from HUD's tenant based data system.</td>
<td>Hamilton County, Ohio which includes but is not limited to the City of Cincinnati</td>
<td>Census blocks</td>
<td>Based on the 2000 HCV density results, hot spots were defined as the areas with HCV density above half of the highest density. The same density value was used to define 2005 hot-spot areas.</td>
<td>- Between 2000 and 2005, the number of hot spots in Hamilton County sharply increased, as did the area encompassing hot spots. In addition, the density of HCV households in these hot spots increased, as did the proportion of HCV households living in hot spots. HCV clustering is occurring in a variety of places including garden apartment complexes, single-family home areas, and LIHTC projects. - The implementation of the HCV program in Hamilton County has not led to poverty and racial deconcentration.</td>
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<td>Oakley <em>et al.</em></td>
<td>The Georgia State (GSU) Urban Health Initiative is following 300 residents from six of the public housing communities earmarked for demolition […] In addition, we are following 70 residents from Cosby Spear, a senior high rise currently not slated for demolition. The purpose of our study is to follow this cohort over time (Cosby Spear as a comparison site) to examine how relocation impacts their lives: Do they end up in better neighborhoods and have improved, more stable living conditions? How is their health and overall well-being affected?</td>
<td>- Socioeconomic features of the cohort of 300 residents from six public housing communities, amongst which two senior high rises. The reported data are on the first families and seniors who moved up to December 2009.</td>
<td>City of Atlanta (although 10 residents in the cohort moved beyond the city limits to date)</td>
<td>Census tracts (122 within the City of Atlanta)</td>
<td>Five characteristics of Census tract, destination n-hoods and Relocated households:</td>
<td>- Families are not moving very far from their original neighborhood (on average three miles) - Destination n-hoods are predominantly African American with an average poverty rate of 30% (based on 2000 census info). This poverty rate is lower than the public housing neighborhoods (poverty rate 44%) - Families remain clustered on the far southwest and near northwest sides of the city. - Of the 122 census tracts within the City of Atlanta, seniors have moved to only seven while families have moved to 63 tracts. - The census tract where the majority of seniors have relocated to has a much higher poverty rate and is not as racially diverse (95% African American versus 42%).</td>
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<td>Oakley &amp; Burchfield (2009)</td>
<td>“This study ultimately sought to examine socioeconomic characteristics of the destination neighborhoods of public-housing families relocated through the HOPE VI initiative in Chicago” (p. 606).</td>
<td>- Data on public housing &amp; relocation (2000-2005), including voucher relocatees - Crime-incident data from Chicago Police Department incident reports (published) - Socioeconomic, population and racial composition data from the U.S. Census.</td>
<td>Chicago</td>
<td>Two levels:</td>
<td>- Rate (per 1,000) of former residents’ relocation in Community Areas - Neighborhood quality, defined by socioeconomic and population characteristics and the presence of existing public-housing projects - Percentage of voucher housing units among all private rental units in the census tract.</td>
<td>- Significant spatial clustering of voucher housing, particularly in disadvantaged, predominantly Black neighborhoods. - Former public-housing families relocated with vouchers are most likely to settle in highly disadvantaged areas where spatial clustering of voucher housing is present. - “Our findings suggest that the primary consequence [of demolition of public housing and replacement with mixed-income housing] is that many relocated families will remain in highly disadvantaged neighborhoods, just not in public-housing facilities” (p. 606).</td>
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Wang, Varady, and Wang 2008 *CityScape* article provides a ‘hot spot’ analysis for Housing Choice Voucher (HCV) program recipients in eight metropolitan areas (New York, Baltimore, Chicago, Cincinnati, Miami, Houston, Los Angeles, and Phoenix). Their research deals with all Housing Choice Voucher (HCV) recipients in those areas, not just those who relocated from HOPE VI restructuring. They use the term ‘hot spots’ to denote areas with significant densities of voucher recipients compared with the surrounding environs. Wang and colleagues (2008) show that the tendency of HCV households to cluster varies by metropolitan area. However, no evidence indicates that HCV clustering is declining. Although HCV households are becoming less concentrated in hot spots in Chicago and Phoenix, the opposite is true in other metropolitan areas, especially in New York, Cincinnati, and Baltimore. This type of HCV concentration is likely to continue as long as affordable rental housing is confined largely to central cities and older inner suburbs.

In a highly related study, Varady et al. (2010) also offer empirical evidence of clustering of HCV program recipients in Hamilton County (Ohio), the main urban county in the Cincinnati Metropolitan Area. Between 2000 and 2005, the number of hot spots in Hamilton County sharply increased, as did the area encompassing hot spots. In addition, the density of HCV households in these hot spots increased, as did the proportion of HCV households living in hot spots. HCV clustering is occurring in a variety of places including garden apartment complexes and single-family home areas. Interestingly, concerns expressed by white residents on Cincinnati’s West Side about HCV reclustering—along with the opposition by residents of this public housing development—resulted in cancellation of a proposed HOPE VI project.

The Georgia State (GSU) Urban Health Initiative in Atlanta is following 300 residents from six of Atlanta’s public housing communities in earmarked for demolition. Oakley and colleagues (2009) have recently published an initial follow-up report on the baseline pre-relocation from December 2008. This cohort contains both families with children as well as
elderly people from public housing senior high rises. Oakley et al. found that families are not moving very far from their origin neighbourhood, on average three miles. Most socio-economic characteristics of destination neighbourhoods are very similar to that of the public housing neighbourhoods. The destination neighbourhoods are predominantly African American with an average poverty rate of 30 percent. This is lower than the for public housing neighbourhoods (44 percent). However, the families are geographically clustered in six census tracts on the far southwest and near northwest sides of the city. Oakley and colleagues conclude that “… this pattern is suggestive of reconcentration” (2009, p. 6). The neighbourhood situation of the seniors from the public housing senior high-rises is even clearer cut. The seniors have relocated to only seven census tracts in the city. Moreover, the census tract where the vast majority of seniors have relocated has a much higher poverty rate and is far less racially diverse. “For the seniors it appears that instead of poverty deconcentration the reverse is happening” (ibid., p. 6).

Oakley & Burchfield (2009) examine spatial patterns and neighbourhood conditions of voucher housing and how these patterns link to public-housing relocatees’ destinations in Chicago. Using sophisticated spatial analytic techniques (GIS), they found significant spatial clustering of voucher housing, particularly in disadvantaged, predominately Black neighbourhoods. Moreover, former public-housing families relocated with vouchers are most likely to settle in highly disadvantaged neighbourhoods where spatial clustering of voucher housing is present. Oakley and Burchfield argue that clustering reflects spatial constraints on relocatees’ residential options.

**Clustering impacts on property values**

One important type of spillover research deals with an indirect effect of clustering of voucher recipients, that is, impacts on neighbourhood property values. Clustering could make an area
less attractive for incumbent or new residents, especially home owners, due to a negative stigma of voucher recipients. “To the extent that middle-class white families prefer to live in areas with few low-income or minority families, or to avoid some of the outcomes stereotypically associated with the poor, the influx of low-income families could reduce the demand for housing and thereby reduce property values in host neighbourhoods” (Johnson et al., 2002, p. 129; cf. Galster & Zobel, 1998).

Galster, Tatian and Smith’s 1999 Baltimore County article, one of the most sophisticated empirical studies available, shows that in low-valued or moderately-valued census tracts experiencing real declines in values since 1990, Section 8 sites and units located in high densities had a considerable negative impact on prices within 2,000 feet. More specifically, when the number of Section 8 households in any neighbourhood reached a certain tipping-point (six or more within 500 feet), there was a decline in housing values. Thus, the adverse influences on property values are more likely to occur when affordable housing is clustered and located in disadvantaged and declining neighbourhoods. According to Galster, this suggests the need to limit the number of voucher families moving into already fragile areas. However, since the HCV program emphasizes honouring household choices it is far from clear how it would be possible to prevent this type of clustering from occurring.

6. Conclusions

This paper represents an exploratory foray into a highly contentious subject, “waterbed effects” linked to the demolition of public or social housing in the US and the Netherlands. In both countries, there is a strong concern about adverse neighbourhood impacts of relocating residents from public or social housing restructuring sites. Despite these concerns, the evidence is still scarce and incomplete.
Notwithstanding fundamental contextual differences, there are some interesting similarities in the research on ‘waterbed’ effects in both countries. Besides the aforementioned concern, reclustering of relocatees is a shared issue. Although numbers do not tell a neighbourhood’s story (see Smith et al., 2002, pp. 40-41; Kleinhans & Slob 2008, p. 123), clustering is an essential prerequisite for waterbed effects in destination communities. The US evidence shows that, to a significant degree, relocatees from public housing restructuring do recluster. This reclustering is a reflection of spatial patterns in the broader Housing Choice Voucher (HCV) program population. Similarly Dutch relocatees from social housing restructuring often move to nearby areas, to neighbourhoods with a high share of social-rented housing, and to neighbourhoods with many non-western immigrants. In sum, there is a significant amount of reclustering in neighbourhoods broadly comparable to the restructuring sites left behind by relocatees.

While both countries offer evidence of a link (or correlation) between the inmovement of public or social housing relocatees and increases in social problems, the type of evidence available differs. Whereas Dutch studies primarily deal with neighbourhood dissatisfaction and the perception of various forms of nuisance and general decline, the US studies report objective as well as subjective evidence regarding lower property values increases in crime and shifts in street gang violence. Up to now there has been only one American study (Galster et al., 1999, but no Dutch one) showing that reclustering can lead to lower property values in some situations, i.e. beyond certain tipping points and in census tracts with already declining values.

Thus far policy discourse about waterbed effects has been polarized, especially in the US. Progressives like Peter Dreier and Xavier de Souza Briggs (2008) dispute the existence of waterbed effects because there is little or no empirical evidence to prove that inmoving public/social housing relocatees are the cause of higher crime or depressed property values. We as
“realists” argue that even though existing empirical evidence does not establish causality, the qualitative and quantitative evidence is compelling enough to show the need for better monitoring of neighbourhood change and programs to address the concerns of residents in destination neighbourhoods (see also Curley & Kleinhans, 2010). Such programs may include relocation counselling educating displaces about behavioural standards in destination neighbourhoods, or outreach to landlords to better screen tenants.

One policy implication to be drawn from this exploratory study is the need for a more honest and frank discussion the waterbed effects issue between scholars and practitioners. For too long, academics have shied away from the subject out of a fear of being tarred as ‘racist’. Ignoring the issue does nobody any good and may fundamentally harm beneficial effects of urban regeneration programs.

Acknowledgement

We are grateful to many colleagues in the US, the Netherland and many other European countries who responded to our literature inquiry and provided us with useful suggestions. Special thanks go to Per Jansen (research assistant), who performed the systematic search of databases and also provided other valuable support for this paper.
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