

# High-Rise: European Lessons from Management and Maintenance

Paul Van Soomeren

*Received: 14 April 2021 Accepted: 5 May 2021 Published: 15 May 2021*

---

## Abstract

High-rise buildings are extremely popular in Asia nowadays and high-rise seems to regain a new momentum in Europe and the Netherlands. The failed high-rise wave of the 60s/70s of the last century, with the Amsterdam Bijlmermeer as an all-time low, caused an aftershock that lasted for many years. More than two-thirds of the Bijlmer, a high-rise district with 17,000 homes and over 40,000 inhabitants, was demolished (Wassenberg, 2013, Bijlmermonitor, Klundert, 2014, Kleuver Soomeren, 2009).

---

## *Index terms—*

## 1 High-Rise: European Lessons from Management and Maintenance

Paul Van Soomeren

The (first) High-Rise Wave high-rise buildings are extremely popular in Asia nowadays and high-rise seems to regain a new momentum in Europe and the Netherlands. The failed high-rise wave of the 60s/70s of the last century, with the Amsterdam Bijlmermeer as an all-time low, caused an aftershock that lasted for many years. More than two-thirds of the Bijlmer, a high-rise district with 17,000 homes and over 40,000 inhabitants, was demolished (Wassenberg, 2013, Bijlmermonitor, Klundert, 2014, Kleuver & Soomeren, 2009). This "cleanup operation" cost approximately 1.5 billion euro. The dream of individualistic urban developers turned into a nightmare and caused considerable trauma to high-rise buildings in The Netherlands. (Dekker, 2017). "The Bijlmer is a symbol of a high-rise district where almost everything that could go wrong went wrong from the moment of completion: the accumulation of problem groups, social insecurity, drug nuisance, and limited (financial) support for retail and other facilities. High-rise buildings are etched in Dutch memory as misery." (Gadet, 2018) The Bijlmer was part of the short but powerful high-rise wave in the Netherlands and Europe, as shown in Figure 1:

Source: Turkington et al. 2004 This high-rise wave emerged across Europe in the mid-1960s, but quickly disappeared: "Between 1960 and the mid-1970s high-rise buildings were constructed in all western countries. High-rise estates dominated the building in this era, and these years proved to be the time of peak housing production in the Netherlands and many other European countries. Housing production had to be optimized by reducing the variation in dwelling types, repetition of construction patterns and using new construction techniques. High-rise fulfilled these requirements. (?). In countries like France, Sweden, Germany, Britain and the Netherlands the majority of the high-rise was built as public housing." (Wassenberg, 2006/192) In the literature (Year 2021 ( )

## 2 G

Author: e-mail: pvansoomeren@dsp-groep.nl ? Freeing the countryside from urban sprawl as it occurred in the US;

? To meet the demand for better and more spacious housing; ? The competition between municipalities/public housing providers to provide modern housing; ? Government policy that supported radical solutions to solve the housing shortage. The high-rise wave turned out to be a brief belch in the Netherlands -and other European

44 countries as well. But not long after that in Asia, the high-rise wave turned into a tsunami. Perhaps that,  
 45 and some of the same motives as back in the 60s, caused high-rise buildings to gain back popularity in The  
 46 Netherlands in recent years. Not without risk, as history shows. Highrise buildings were not a success in Europe,  
 47 and certainly not in the Netherlands. Maybe we can learn something from the Dutch and European past?II.

### 48 3 High-Rise Buildings and Density

49 Once again, in 2020, the acute housing shortage is an essential motive for building high. It sounds plausible:  
 50 "we have to accommodate many people in the coming years, and if we build high, we can accommodate more  
 51 people". Yet this reasoning is far too simple. It is too readily assumed that building high means that many  
 52 more houses/people fit on a square kilometre: building high = high density. This may be true for Asia, where  
 53 the 50 or more storey high-rise buildings are close together. And sometimes that is the case with high-rise  
 54 buildings close to centre/station locations. Yet high-rise buildings and high density in the Netherlands appear  
 55 to be a rare combination. With all its high-rise buildings, the Bijlmermeer was the district with the lowest  
 56 housing density in Amsterdam. Alice Coleman (1985) states in her book 'Utopia on Trial' that the assumption  
 57 "high-rise automatically means high density" is a persistent myth. The high-rise flats are often surrounded by  
 58 lots of greenery and open space, following the credo "light, air and space". Coleman also points out that high-rise  
 59 buildings require all kinds of facilities that are often not necessary in low-rise buildings: stairwells, halls, lifts,  
 60 fire lifts and compartments, galleries, technical/service rooms, shafts, etc.

61 Partly for this reason, high-rise buildings nearly always cost more than low-rise. In the Netherlands, architect  
 62 Sjoerd Soeters argues against high-rise buildings and particularly against the new Amsterdam high-rise sold as  
 63 "Vancouver on the Amsterdam Waterfront". Soeters said about this area: "In the case of a project such as this  
 64 area, the contradiction of starting points is even more poignant: the plan must mainly consist of high towers,  
 65 which are also slim because that is beautiful. That is the most expensive building form that can be devised:  
 66 structural, ratio facade surface/floor area, ratio net/gross, extra costs of fire services, extra costs for installations,  
 67 extra costs for maintenance installations." (Stadszaken, 2019) And:

68 "High-rise buildings are like an avocado. As the building gets higher, the wick gets more prominent, and the  
 69 floor area's efficiency decreases. That even drops from seventy to eighty per cent to fifty per cent. Moreover, our  
 70 swampy soil is not suitable for high-rise buildings. In Amsterdam, for example, we have to drive piles as deep  
 71 as 25 and 50 meters deep for high-rise buildings, and then the whole lot is still 'wiggling' on stiletto heels." (De  
 72 Architect, 2018).

### 73 4 III.

74 CIAM: Light, air and Space in a Functional City

75 The often low building density in the Netherlands is partly due to the ideas of CIAM (Congrès Internationaux  
 76 Architecture Moderne). CIAM is a group of architects and planners who, from the 1920s to the late 1950s, made  
 77 their mark on the architectural debate with concepts such as the functional city, segregation of functions (living,  
 78 working, traffic, recreation) and light, air and space. All this in response to the miserable living conditions and  
 79 slums of the 19th century (Woud, 2010). Or as Le Corbusier put it in his Athens Charter (1933):

80 The quote is a plea for high building in very low (!) density. High-rise buildings in a sea of public greenery.  
 81 The well-known architect and MIT professor John Habraken finds that there is often too much public space  
 82 with poor visibility/control. Maintenance and social safety are often appalling (Habraken, 2000). "We have  
 83 drifted away from territorial patterns so that we tend to maximize public space, ignore territorial boundaries.  
 84 We have forgotten how to treat territorial edges, and we do not like gates. The territory is established by  
 85 giving control to inhabitants. " (Habraken, 2003) Others support Habraken in his harsh judgment: Jacobs, 1961;  
 86 ??ewman, 1972and 1980, Kube, 1982 ?? Soomeren, 1989;Soomeren et al., 2014. The CIAM ideas may have  
 87 been an excellent response to the 19th-century slum woes. Still, the emphasis on low densities in combination  
 88 with high buildings in particular often turns out badly nowadays, because that (public) space requires a lot of  
 89 cost-CIAM 29 (recommendation): "High buildings, set far apart from one another, must free the ground for  
 90 broad verdant areas. Indeed, they will have to be situated at sufficiently great distances from one another, or  
 91 else their height, far from being an improvement of the existing malaise, will actually worsen it; that is the grave  
 92 error perpetrated in the cities of the two Americas. (?) a city (?) population density must be great enough to  
 93 justify the installation of the communal facilities that will form the extensions of the dwelling.

94 Once this density has been determined, a presumable population figure will be adopted, permitting the  
 95 calculation of the area to be reserved for the city."(Modernist Architecture, 2010) increasing maintenance, is  
 96 challenging to control and oversee, resulting in poor social safety. High-rise in itself does not always have to be  
 97 or become problematic (Aquilué and Stummvoll, 2015, Soomeren et al. 2014 and2016), but those who want to  
 98 build high do start with a 5-0 disadvantage: 1. High-rise buildings are expensive, 2. Less suitable for families  
 99 with children, 3. Certainly in the increasingly extreme Dutch climate, 'windier' and therefore less pleasant, 4.  
 100 It has more semi-public space which often leads to (inter-ethnic) conflicts and hassle (Crul et al. 2020), 5. And  
 101 a poorly monotonous design -for example, a dead plinth full of storage areas -often results in crime and fear of  
 102 crime (Soomeren, 2013), especially if the spaces between the buildings are large, green and unclear (Korthals  
 103 Altés, 1987). It is certainly not just a question of how high a building is, many more variables are important,

---

104 but planners and architects rarely have a good sense of what these are. If you want to build high, you often have  
105 to sit on the expensive management blisters.

106 Nowadays-similar to the Asian high-rise-we built differently: no more gallery flats but a large parking garage  
107 with a high-rise building on top of that. The individual apartments are directly accessible from the garage with  
108 lift and staircase that connect to 2 or 4 flats per floor.

109 There is often still a fence around a complex of high-rise towers with a security guard, barrier, and automated  
110 number plate recognition (ANPR). Contacts in the building between neighbours are often limited (at most per  
111 floor or sometimes in the elevator). Moreover, such a building/complex is not part of the city; it is not part of  
112 the urban fabric. In principle, this type of building forms a "gated community". Incidentally, this is a form of  
113 housing that enjoys increasing popularity worldwide (Glaze et al. 2006). For that "Desire for security and fear  
114 of crime" is often an important argument.

115 Interestingly enough, criminals also like to settle in such communities. You see the enemy approaching from  
116 afar, and you are-if you want-completely anonymous. You can arrive and leave unseen by car. That social  
117 isolation is not a soft concept shows Eric Klinenberg (2002) in his book Heat wave. People living anonymously  
118 with little contact with family and neighbours, experience -sometimes deadly -problems in an extreme crisis (heat  
119 wave, pandemic). Nobody sees, knows or helps them.

## 120 5 IV.

## 121 6 Learning

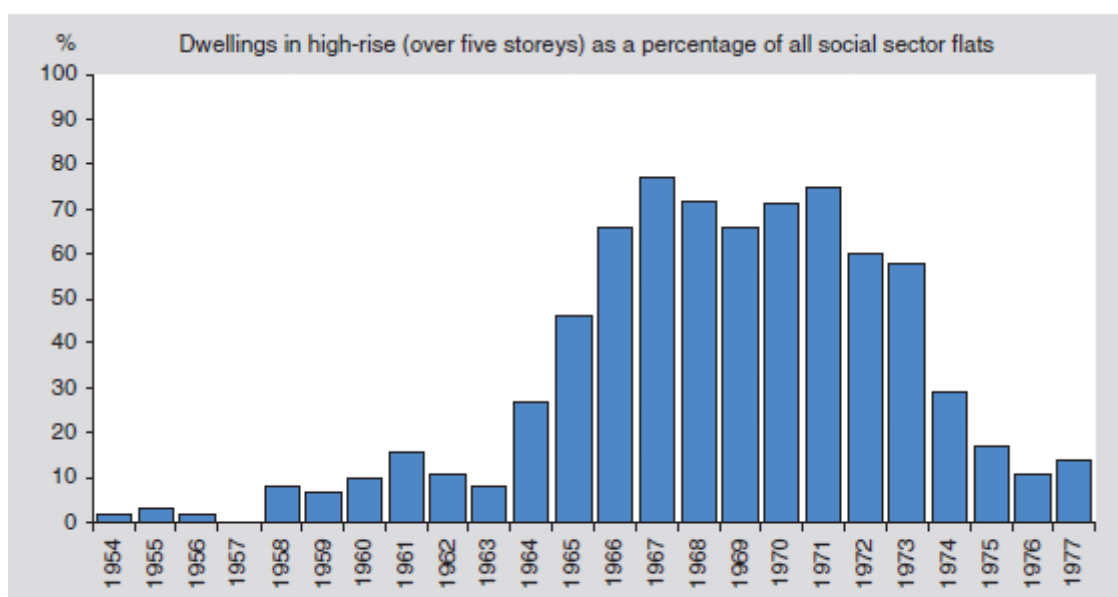
122 Have planners, architects, public housing providers, and investors learned anything from the past management  
123 experiences -particularly in Europe -of the first wave of high-rise buildings?

124 Learning through structural evaluation proves difficult in the world of urban planning, architecture and design  
125 since the problems pop up later in the management and maintenance phase. Or as one Dutch planner pointed  
126 out: "we never learn our lesson, we should, but we just don't take the time to reflect". And even if some planner  
127 or architect does learn from the design errors, it often remains implicitly in the head of that one planner or  
128 designer. There is no structural retrospective evaluation-learning from management& maintenance-that shows  
129 us the lessons we need to know for the future. ??Soomeren et al., 2014/65) Only the beautiful sunny image with  
130 that one smiling young family with cheerful children in summer clothes lasts upon completion in the architecture  
131 magazines.

132 "After nearly a hundred years of renewal architecture an urban building it may be because for wonder that the  
133 unacceptable inner-city forms which were then rejected (PvS: by the CIAM adepts) have become an inspiration  
134 for urban planners in their search for new diversity and shapes in the compact city. It illustrates the temporary  
135 blindness that invariably accompanies revolutionary ideas. While innovation sometimes leads to improvement  
136 it is nearly always also coupled with rejection of what was essentially valuable and needed to be cherished. "  
137 (Zimmerman, 2007) With the "search for new diversity and shapes in the compact city", Zimmerman refers to  
138 American critics such as Jane Jacobs (1961), Lewis Mumford (1961) and Christopher Alexander (1977). Or in  
139 Europe Jan Gehl (2010) and recently in the Netherlands Floor Milikowski (2018). Academics and practitioners  
140 who stood up against megalomaniacal and monotonous urban renewal. Critics that consider issues such as  
141 diversity, view of the street, mixing of functions and the human scale more important than buildings and their  
142 form. Perhaps planners and authorities in Asia still find that human scale and diversity is not that important  
143 (Yuen & Yeh, 2011) and undoubtedly we in the Netherlands -in all haste to build a lot and high -forget the  
144 past lessons. Still, perhaps we should try to reflect more seriously on lessons learned in the past and learn from  
145 management and maintenance. <sup>1</sup>

---

<sup>1</sup>( ) G © 2021 Global Journals High-rise: European Lessons from Management and Maintenance



The high-rise wave in the Netherlands: dwellings in high-rise (over five storeys) as a percentage of all social sector flats

1

Figure 1: Figure 1 :

- 
- 146 [Routledge Studies in Human Geography] , *Routledge Studies in Human Geography*  
147 [De Strijd Om Amsterdam] , De Strijd Om Amsterdam . Atlas Contact, Amsterdam.  
148 [Newman ()] , O Newman . *Community of Interest* 1980.  
149 [Korthals Altes] *1087) Hoogbouw gewogen. All you need is LOV*, H J Korthals Altes . Bureau Criminaliteitspre-  
150 ventie, Amsterdam.  
151 [Wassenberg (2006)] '2006) the integrated renewal of Amsterdam's Bijlmermeer high-rise'. F Wassenberg .  
152 *Informationenzur Raumen twicklung Heft*, 3/4.2006. p. .  
153 [Achterbuurten en vuil in de 19de eeuw] *Achterbuurten en vuil in de 19de eeuw*, Bert Bakker, Amsterdam.  
154 [Alexander et al. ()] C Alexander , S Ishikawa , M Silverstein . *Pattern Language; Towns, Buildings, Construc-*  
155 *tion*, 1977. Oxford University Press Inc. (in het Nederlands uitgegeven als: Een patroontaal)  
156 [CIAM's "The Athens Charter Modernist Architecture ()] 'CIAM's "The Athens Charter'. 22-02-2020.  
157 [https://modernistarchitecture.wordpress.com/2010/11/03/ciam%E2%80%99s-%E2%80%](https://modernistarchitecture.wordpress.com/2010/11/03/ciam%E2%80%99s-%E2%80%9Cthe-athens-charter%E2%80%9D-1933/)  
158 [9D-1933/](https://modernistarchitecture.wordpress.com/2010/11/03/ciam%E2%80%99s-%E2%80%9Cthe-athens-charter%E2%80%9D-1933/) *Modernist Architecture*, 2010. 1933.  
159 [Habracken and John ()] *Citaat: interview met John Habracken voorafgaande aan het congres van de International*  
160 *CPTED Association*, N Habracken , John . 2000. 2003. Amsterdam: MIT Press. (The Structure of the  
161 Ordinary; Form and Control in the Built Environment)  
162 [Gehl ()] *Cities for People*, J Gehl . 2010. Island Press.  
163 [Lukas ()] 'Crime prevention in high-rise housing: lessons from the crime prevention carousel (sharing good  
164 practice in crime prevention, based on the evaluation of physical rehabilitative and social schemes in  
165 problematic urban areas in member and accession states)'. T Lukas . *Max Planck Institute for Foreign and*  
166 *International Criminal Law*, (Freiburg) 2007. (Part A: Final Report AGIS)  
167 [Lukas, Tim (ed.) ()] *Crime Prevention in Highrise Housing. Lessons from the Crime Prevention Carousel.*  
168 *Kriminologische Forschungsberichte*, Lukas, Tim (ed.) 2007. 2007. Berlin: Duncker & Humblot. 132.  
169 [Dekker ()] *De betonnen droom; De biografie van de Bijlmer en zijn eigenninnige bouwmeester*, D Dekker . 2017.  
170 Thomas Rap, Amsterdam.  
171 [Jacobs ()] *Dead and life of great American cities*, J Jacobs . 1961. New York. (Random House)  
172 [Klinenberg ()] *Heat wave, a socialautopsy of disaster in Chicago*, E Klinenberg . 2002. The University of Chicago  
173 Press.  
174 [Turkington et al. ()] *High-rise housing in Europe Current trends and future prospects. Housing and Urban Policy*  
175 *Studies 28. OTB Research Institute for Housing*, R Turkington , R Kempen , Van , F Wassenberg . 2004.  
176 Delft, The Netherlands. Urban and Mobility Studies Delft University of Technology  
177 [Soomeren et al. (ed.) ()] *High-rise in trouble; Dream, nightmare and awakening: the case of Bijlmermeer*  
178 *in Amsterdam (COST-action TU1203 case study)*, P Soomeren , W Klundert , Kleuver Van De, En .  
179 [Ziewww.costtu1203.eu](http://www.costtu1203.eu) J. de (ed.) 2014.  
180 [Soomeren et al. ()] 'High-rise in trouble? Learning from Europe'. P Soomeren , W Klundert , Van De , J I  
181 Aquilué , Kleuver En . 10.1108/JPMD-12-2015-0058. *Journal of Place Management and Development* J. de  
182 (ed.) 2016. 9 (2) p. .  
183 [Yuen and Yeh ()] *High-rise living in Asian Cities*, B Yuen , A G O Yeh . 2011. Springer.  
184 [Crul et al. ()] 'How the Architecture of Housing Blocks Amplifies or Dampens Interethnic Tensions in Ethnically  
185 Diverse Neighbourhoods'. M Crul , C H D Steinmetz , F En Lelie . *SocialInclusion* 2183- 2803. 2020. 8 (1) p.  
186 .  
187 [Architect ()] *Is hoogbouw de oplossing voor de krapte op de woningmarkt?*, De Architect . \_\_ga=2.18747  
188 6333.452590955.1582378230-1515937977.1. [https://www.dearchitect.nl/architectuur/artikel/](https://www.dearchitect.nl/architectuur/artikel/2018/01/hoogbouw-de-oplossing-voor-de-krapte-op-de-woningmarkt-101186551)  
189 [2018/01/hoogbouw-de-oplossing-voor-de-krapte-op-de-woningmarkt-101186551](https://www.dearchitect.nl/architectuur/artikel/2018/01/hoogbouw-de-oplossing-voor-de-krapte-op-de-woningmarkt-101186551) 2018.  
190 58237 p. 8230.  
191 [Klundert and Van De ()] W Klundert , Van De . *Bijlmermeer regenerated*, (London) 2014. Dissertation  
192 Westminster University London  
193 [Woud and Van Der ()] *Koninkrijk vol sloppen*, A Woud , Van Der . 2010.  
194 [Kube ()] E Kube . *Städtebau, Wohnhausarchitektur und Kriminalität. Prävention statt Reaktion*, (Heidelberg)  
195 1982. Kriminalistik Verlag.  
196 [Wassenberg ()] *Large housing estates: ideas, rise, fall and recovery. The Bijlmermeer and beyond*, F Wassenberg  
197 . 2013. Delft: Delft University Press.  
198 [Mumford ()] L Mumford . 23. Newman, O. (1972,) *Defensible Space: Crime Prevention through Urban Design*,  
199 (New York; New York, NY) 1961. Macmillan. () the City in History: Its Origins, Its Transformations, and  
200 Its Prospects)

- 201 [Gadet ()] ‘Ondermijnt hoogbouw de menselijke maat’. J Gadet . *Agora* 2018. 3.
- 202 [Glaze et al. ()] *Private cities (Global and local perspectives)*, G Glaze , C Webster , K Frantz . 2006.
- 203 [Soomeren and Van ()] ‘Tackling Crime and Fear of Crime through Urban Planning and Architectural Design’.
- 204 P Soomeren , Van . *Chapter Crowe, T. (ed.)* 2013. 2013. 12 p. . (Prevention Through Environmental Design)
- 205 [Kleuver et al. ()] *The Bijlmermonitor laat zien wat er echt veranderd is. Tijdschrift voor de Volkshuisvesting*, J
- 206 Kleuver , P Soomeren , Van . 2009. 2009. p. .
- 207 [Soomeren and Van ()] *The physical urban environment and reduction of urban insecurity and crime prevention;*
- 208 *Town planning and insecurity: a general introduction*, P Soomeren , Van . 1987/1989. (Paper by Paul van
- 209 Soomeren)
- 210 [Urban Renaissance in Europe (Local Strategies for the Reduction of Urban Insecurity in Europe), Study Series nr ()]
- 211 *Urban Renaissance in Europe (Local Strategies for the Reduction of Urban Insecurity in Europe)*, *Study*
- 212 *Series nr*, 1989. Strasbourg. 35 p. . Council of Europe/City of Barcelona ; Council of Europe, Standing
- 213 Conference of Local and Regional Authorities of Europe
- 214 [Coleman ()] *Utopia on trial: Vision and reality in planned housing*, A M Coleman . 1985. London: Hilary
- 215 Shipman.
- 216 [Milikowski ()] *Van wie is de stad*, F Milikowski . 2018.
- 217 [Bijlmermonitor ()] ‘Vanaf de start van de vernieuwing (sloop/nieuwbouw) in de Bijlmer is er jaarlijks (later twee
- 218 jaarlijks) gekeken naar de effecten van die operatie op tal van doelen/terreinen. Dat onderzoek werd uitgevoerd
- 219 door DSP-groep in samenwerking met de Dienst Onderzoek en Statistiek Gemeente Amsterdam. Een
- 220 voorbeeld van een rapportage: Bijlmermonitor 2010 (Voortgang vernieuwing Bijlmermeer’. Bijlmermonitor .
- 221 *Jolien Terpstra* 1994-2009. 14 december 2010. (Justin de Kleuver en Paul van Soomeren m.m.v. O&S)
- 222 [Zimmerman ()] N Zimmerman . zie:[www.dspgroep.eu/newsitem/688/the\\_crime\\_prevention\\_](http://www.dspgroep.eu/newsitem/688/the_crime_prevention_carousel.html)
- 223 [carousel.html](http://www.dspgroep.eu/newsitem/688/the_crime_prevention_carousel.html) *Foreword in Lucas, 2007 (AGIS)*, 2007.
- 224 [Stadszaken ()] *Zo realiseer je hoge dichtheden zonder hoogbouw*, Stadszaken . [https://www.stadszaken.nl/](https://www.stadszaken.nl/ruimte/gebiedsontwikkeling/2124/zo-realiseer-je-hoge-dichtheden-znder-hoogbouw)
- 225 [ruimte/gebiedsontwikkeling/2124/zo-realiseer-je-hoge-dichtheden-znder-hoogbouw](https://www.stadszaken.nl/ruimte/gebiedsontwikkeling/2124/zo-realiseer-je-hoge-dichtheden-znder-hoogbouw)
- 226 2019. (geraadpleegd 22-02-2020)