

A Metro Line for the Better?

On Transit-Induced Gentrification in Amsterdam-Noord

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Abstract

As sustainable transportation becomes a key development in modern cities, and housing increasingly becoming a problem in the Netherlands, at least part of the answer seems to lie in Transit-Oriented Development. This But the social aspect of TOD has only recently become part of academic literature under the name Transit-Induced Gentrification. From this perspective, the 2018 Noord-Zuidlijn metro line in Amsterdam and the city part of Amsterdam-Noord are studied to see what the gentrification effects of the Noord-Zuidlijn are. The following research question is asked:

How has development of the Noord-Zuidlijn contributed to gentrification in Amsterdam-Noord?

As Noord is gentrification at the crossroads of Government-Led Gentrification, State-Led Gentrification and Place-Branding Gentrification have previously been studied in Noord, but the effect the Noord-Zuidlijn has had on Gentrification is yet unknown. This study uses a temporal comparison, a literature review and a survey, and finds little numerical evidence for gentrification. The literature review and survey do find gentrification taking place, but Transit-Induced Gentrification is not (yet) identified. It is hypothesized, with current and future developments of Noord in mind, that Transit-Induced Gentrification can potentially be harmful for the social fabric of Amsterdam-Noord.

Contents

- Abstract.....1
- 1. Introduction.....3
 - 1.1. Background3
 - Gentrification3
 - Sustainable Transport3
 - Geographical Context: Amsterdam.....3
 - Societal Relevance.....3
 - 1.2 Research Problem.....4
 - TOD and TIG: scientific relevance.....4
 - Research Questions4
- 2. Theoretical Framework4
 - Government-Led Gentrification and Place-Branding4
 - The Noord-Zuidlijn: Transit-Oriented Development5
 - Transit-Induced Gentrification5
 - Expectations5
 - 2.1 Conceptual Model.....6
- 3 Methodology.....7
 - Methodological Structure.....7
 - Temporal gentrification analysis.....7
 - Survey.....8
- 4 Analysis.....9
 - Secondary Data Analysis9
 - Income Divisions10
 - Income per income receiver10
 - Housing Stock Development.....11
 - Real-Estate Values12
 - Survey Analysis13
- 5 Discussion.....14
 - In both the past and present, how is gentrification taking place in Amsterdam-Noord?.....14
 - How does Amsterdam-Noord’s gentrification relate to the Noord-Zuidlijn and Transit-Oriented Development (TOD)?14
 - What does Transit-Induced Gentrification mean for Amsterdam-Noord? What are the (dis)advantages for the area?15
- 6 Conclusion16
- References17
- Appendix A: Temporal Gentrification Criteria Analysis19
 - Income Divisions (Figure 4).....19
 - Income per Income Receiver (Figure 5)20
 - Housing Stock Development (Figure 6)21
 - Real Estate Values / WOZ Waardes (Figure 7)22
- Appendix B: Neighborhood Survey.....23
 - Data:.....28

1. Introduction

1.1. Background

Gentrification

In recent years, literature has witnessed an increase in spatial inequality in the urban realm, in particular relating to residential neighborhoods (Boterman et al., 2021). This increased spatial inequality is, at least in part, fostered by the process of gentrification, in which lower-end, often working-class neighborhoods are uplifted to be higher-end, through an increase of both services and image (Glass [1964] in Doucet [2014]). Numerous services are relevant, but in light sustainable urban design concepts, sustainable transport is particularly important.

Sustainable Transport

Transport planning and design measures include a shift toward public transportation modes, away from private car use, to reduce congestion, air pollution and provide a more sustainable transportation system. In this, the IPCC (2023) is consistent with Banister's (2011) policy recommendations, in which public transport and walkability form key elements of a(n urban) transport system. From a neighborhood perspective, this means new infrastructure developments take place, more destinations can be reached on short notice, and the neighborhood becomes attractive to new population groups. This sequence is known as Transit-Induced Gentrification, or TIG for short.

Geographical Context: Amsterdam

The realms of gentrification and sustainable transport come together in TIG, in which the development of new transport infrastructure causes gentrification effects. Although a relatively new concept, with correspondingly few case studies, the risk for TIG has previously been found in Amsterdam-Noord. This part of the city of Amsterdam has traditionally been a relatively poor area, with the ship-building industry being the most important industry in the tuindorpen (garden villages) of Noord up until the 1960s.

However, the new Noord-Zuidlijn metro line connects this part of the city to other important destinations (mainly business districts, see figure 1), and new developments have taken place along the line. This seems to have popularized the Amsterdam-Noord area, as the city's 'housing value map' (Gemeente Amsterdam, 2023b) shows Amsterdam Noord to have become one of the most expensive parts of the city in terms of real-estate (Roele, 2023).

Societal Relevance

This is where gentrification-linked problems arise. Atkinson et al. (2011) identify gentrification to be a force moving lower-class residents out of 'their' neighborhood, into different neighborhoods, which is disruptive to circles of friends and family, as they 'move on'. This force is caused by higher costs of living, in itself caused by an increased popularity of the

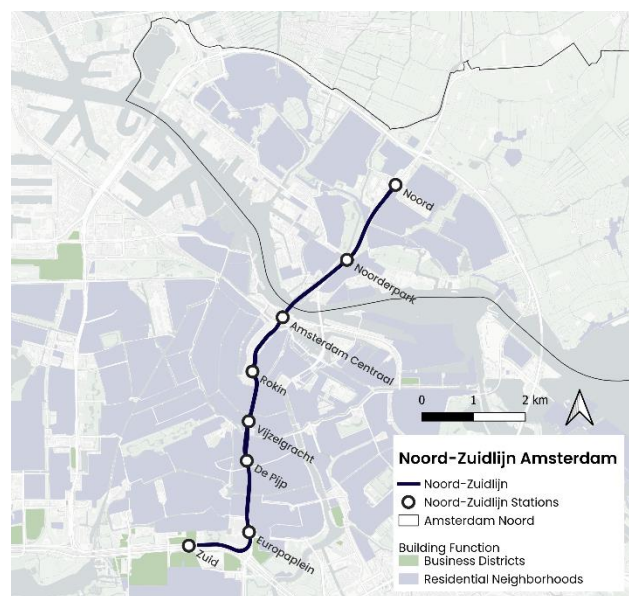


Figure 1: The Noord-Zuidlijn, its stations and Commercial Building in Amsterdam (source: Openstreetmap, own work)

neighborhood. Moreover, Pollack et al. (2010) find that lower-class residents in particular rely on public transportation, amplifying the negative effect of displacement from neighborhoods with good PT for these groups.

1.2 Research Problem

TOD and TIG: scientific relevance

Although gentrification has been extensively studied in literature, and TOD has been extensively studied in Dutch cases (Lierop et al., 2017), TIG remains a relatively sparsely studied phenomenon, as Padeiro et al. (2019) identify the first paper linking TOD and gentrification emerging in 2007, and a slow rise on the matter since 2014. Moreover, most of this research has been conducted in North America, with the authors not identifying any research in the Netherlands, in spite of TOD being a relatively hot topic in literature from the Netherlands, with high public transport ridership and many examples of TOD developments.

The social effects of gentrification have traditionally not been viewed as crucial, as Dutch urban planning and housing policy is to a relatively large extent in the hands of housing corporations, and was also heavily regulated until the 1990s (Kempen & Weesep, 1994). These factors were hypothesized to keep the social and economical effects of gentrification to a relative minimum (Hoekstra et al., 2018). The recent emergence of TIG in other countries, in combination with more deregulated housing market, makes a case study relevant in a Dutch context.

Research Questions

The main research question for this thesis is:

- **How has development of the Noord-Zuidlijn contributed to gentrification in Amsterdam-Noord?**

To answer these questions, the following subquestions are asked:

- In both the past and present, how is gentrification taking place in Amsterdam-Noord?
- How does Amsterdam-Noord's gentrification relate to the Noord-Zuidlijn and Transit-Oriented Development (TOD)?
- What does Transit-Induced Gentrification mean for Amsterdam-Noord? What are the (dis)advantages for the area?

2. Theoretical Framework

Although this study aims to research the effect the Noord-Zuidlijn has had on gentrification in Amsterdam-Noord, Transit-Induced Gentrification in other words, broad literature on gentrification in Amsterdam-Noord highlight two other important forms of gentrification that pertain to Amsterdam-Noord. Government- or state-led gentrification¹ on one hand, and place-branding on the other.

Government-Led Gentrification and Place-Branding

According to Van de Kamp & Welschen (2019) government interventions on gentrification take place in two ways: firstly, the Municipality of Amsterdam follows a 'Broedplaatsenbeleid' (literally translated: breeding ground policy), in which artists are provided with exhibition space, or subsidized. These investments are neighborhood-specific, i.e. they tie in to the neighborhood's identity and add onto it. This creation of a cultural scene in which intellectual property is created relating to a place is known as Place-Branding (Van Ham, 2008). This place-branding allows for

¹ Both terms are used in literature, but for simplicity, the term government-led gentrification is throughout this study.

the creation of a cultural scene and attracts a creative industry which in turn attracts a middle-class demographic to the neighborhood. In other words, and can start a gentrification process, much like Florida (2004) describes.

Secondly, and more importantly for this study, the municipality's housing policy has seen a shift from social housing toward a liberalized private ownership and rent. Hoekstra et al. (2018) motivate this in the municipality's effort to attract more affluent residents to poorer, social housing-dominated city parts of Amsterdam.

Amsterdam-Noord is a prime example of this; the share of social housing has always been high in Noord given its history, and the municipality notes a 12% increase in homeownership between 2005 and 2016 in Noord (Gemeente Amsterdam, 2022b). This increase facilitates the creation of a middle class and attracts more affluent residents, but it is known to cause a sense of estrangement among residents from before the policy shift; a well-known aspect of gentrification.

Besides housing liberalization, new housing developments also attract middle-class and affluent residents, even more so than older developments. The new residents in new housing are often affluent and highly educated, in line with influx into the rest of Amsterdam (Gemeente Amsterdam, 2022b), although 'old Northerners' still remain at the core (Pérez, 2021).

Although these policies both originate from the same source (the municipality of Amsterdam), they work in different policy fields: Government-led gentrification is a policy instrument on housing policy, whereas place-branding works as a combination of subsidies and policy to change the cultural scene of a neighborhood. Although they are different policies, they are both related to each other and at constant interplay.

The Noord-Zuidlijn: Transit-Oriented Development

Although the Noord-Zuidlijn is not known to be designed as a TOD specifically, it does meet a lot of criteria to be seen as such. Moreover, TODs have been a part of Dutch spatial planning for relatively long; it was the first country in Europe to study and implement such a development (Lierop et al., 2017). Although no commonly accepted definition of TOD has been agreed upon (Ibraeva et al., 2020), the NZL stations in Amsterdam-Noord have seen new construction of dense housing, as well as commercial services. It allows residents to use nearby commercial areas and public services, and the metro station allows for fast connection to other city parts and vice versa. Padeiro et al. (2019) also note TODs characterization to promote modal shift and, perhaps most importantly for this study, improving neighborhood livability.

Transit-Induced Gentrification

The above listed features of TOD create more livable and a better quality of life, but as such, Padeiro et al. (2019) hypothesize the possibility for gentrification in this framework. Investments in areas surrounding new public transport stations often see investments in services and commercial areas, as well as housing construction and renovations. These investments can attract more affluent residents who are willing to pay for these services, and can force out older inhabitants.

Expectations

Transit-Induced Gentrification is only one part of a larger gentrification process that takes place in Noord. As these processes strengthen each other (e.g. the combination of a lively cultural scene, new housing and commercial activity and better connectivity as results from place-branding, government-led gentrification and TIG respectively), it is difficult to study the exact effect of 'only' TIG. However the question *how* the Noord-Zuidlijn has added to the gentrification process is more easily answered. Qualitative sources will be critical for this, as little

operationalization on TIG alone exists, and statistics on the Noord-Zuidlijn are still very recent, with its opening in 2018. Because of this, the hypothesis of this thesis is that the Noord-Zuidlijn (NZL) has had a significant effect on gentrification in Noord, or has at least amplified what was started before the line's opening.

2.1 Conceptual Model

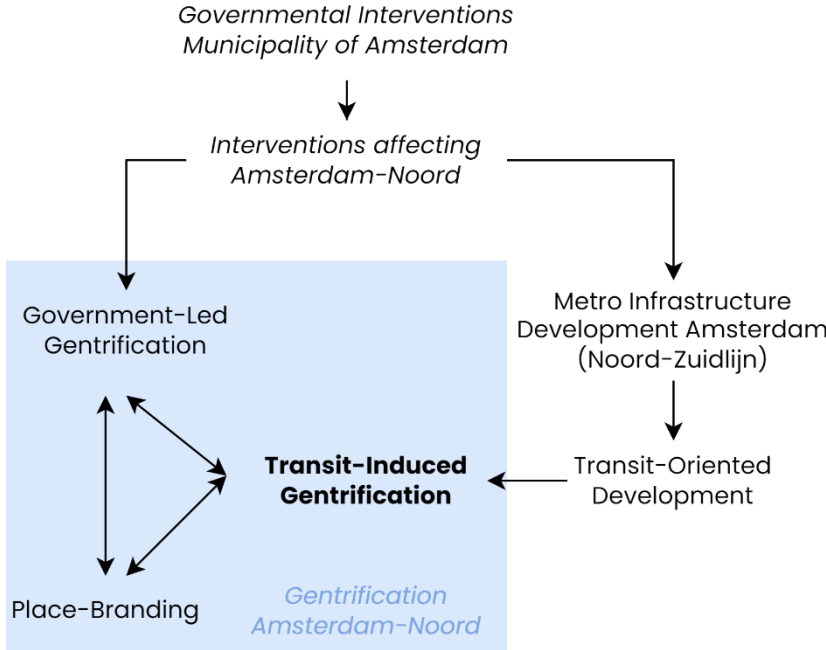


Figure 2: Conceptual model

As the concept of TIG is relatively new and does not have its own set of indicators, a synthesis of criteria related to gentrification and the metro line is created. This way, the social effects of the Noord-Zuidlijn can be measured. As living in a neighborhood with good public transportation often means living close to affluent neighborhoods, meaning an implementation of new public transport is hypothesized to lead to (negative) gentrification effects. This means that new investments in public transportation, and TOD, can cause negative gentrification effects.

3 Methodology

The methodology for this research is divided into three sections in order to reflect different aspects of a TIG case study. Firstly, numeric gentrification criteria are analyzed over the timespan relevant for the NZL, in this case from the start of construction until the most recent data. Secondly, a literature analysis on gentrification in Amsterdam-Noord and the NZL is conducted to give this study more scientific background and to allow for comparison to other case studies. Finally, a survey is conducted for Amsterdam-Noord residents to gain insight into perceived gentrification effects in Amsterdam-Noord, as well as the position the NZL takes in this.

Because of a relative lack of TIG literature and operationalization, gentrification literature and operationalization is applied to the case study area of Amsterdam-Noord. To comprehend the effect of the Noord-Zuidlijn’s construction, a temporal comparison will be made given the gentrification criteria.

Methodological Structure

Table 1: Methodological structure

Temporal Gentrification analysis	Literature Review	Survey
Temporal analysis Quantitative aspects	Scientific background Policy analysis Quantitative + Qualitative asp.	Recent data addition Resident perception Quantitative + Qualitative asp.

Each of these research methods has its own advantages and disadvantages. Firstly, a temporal comparison allows for the Noord-Zuidlijn’s effect on gentrification to ‘shine through’, i.e. it is hypothesized to show an increase in various gentrification criteria, in particular around its opening stage. Moreover, as quantitative data is used, this case study is made more comparable to other case studies in similar themes.

The literature review is used to juxtapose Amsterdam-Noord into the framework of gentrification, and this allows for an analysis of possible other factors that have led Noord to gentrify over the years, as is hypothesized. This part is also crucial in creating a connection between gentrification and TOD; i.e. making sure that this case study not only concerns the gentrification process of Noord, but highlights (possible) TIG.

A survey is conducted to allow for recent data gathering. Literature posted after the line’s opening have not yet incorporated enough data to make accurate statements on the line’s effect in Noord. Although this survey does not take into account the same data as the temporal gentrification analysis, it does ask respondents more general questions to work out preliminary effects.

Temporal gentrification analysis

Since gentrification criteria are well-documented in literature, and the municipality of Amsterdam (as well as other layers of government) have high-quality data pertinent to the topic freely available online, a GIS analysis, as well as a data analysis are conducted. For this study, the following criteria are used:

Table 2: Indicators of Gentrification and Transit-Induced Gentrification

Literature	Indicators	Used Criteria²
Landis	1. Changes in sociodemographics and	• Average Income per Income Receiver

² All criteria are based of CBS (2023), as this provides comparable and high-quality data over the time period 2004-2023.

(2016)	economics of a region over a period of time	• Income Mix (Low, Middle, High)
	2. Changes in given building permits and land values	Real-Estate Values (WOZ)
Dong (2017)	Housing characteristics	
	1. Change in % of rental housing	Rental Housing Stock
	2. Change in % of social housing	Social Housing Stock
	3. Change in housing stock	Housing Stock Development

Determining causality between TOD and gentrification however, due to its relative lack of literature, demands primary data collection in the form of a questionnaire held under Noord's residents. Questions pertaining to perceived gentrification, as well as the Noord-Zuidlijn are asked and correlated to existing data, and arguments for perceived gentrification are used to give more dimension to 'purely' statistical gentrification indicators.

As mentioned before, the academic cornerstones of this study are relatively extensively studied (e.g. gentrification, TOD), but further foundation, TIG in particular, is a relatively new topic that remains somewhat inconclusive (Padeiro et al., 2019). However, the Noord-Zuidlijn itself and the city it serves are well researched. The addition of the viewpoint of TIG to the literature that already exists on the city of Amsterdam and its Noord-Zuidlijn therefore aims to add a critical dimension, supported by current literature.

Survey

This creates the need for primary data collection, given the lack of current literature on the matter, as well as the relatively short timespan between the line's opening and the current day. For this primary data collection, a questionnaire among Amsterdam-Noord residents is conducted, concerning their perceptions of neighborhood change and the role of the Noord-Zuidlijn in Noord. The questionnaire contains around 10 multiple-answer questions, with the opportunity of explanation for a number of questions. This way, a relatively large sample size can be created, but as respondents are still asked to explain their answers, this survey offers more insight into the perception of gentrification than an analysis of gentrification criteria would.

Earlier ethnographic studies in Amsterdam-Noord have showcased valuable resident's insights into how they perceive gentrification processes taking place in Noord. To gain understanding of the respondents' perspective, direct questions on gentrification (although avoiding the term to not make matters more complicated than necessary) are asked, as well as respondents' perceived use of the Noord-Zuidlijn.

The survey is conducted online, in Google Forms. This takes out time constraints that on-site surveys might have, and allows residents to fill in the survey at a time of their liking. The survey was posted on two of Amsterdam-Noord's Facebook groups (Amsterdam-Noord and I love Amsterdam Noord, see appendix B) and a QR-code was posted in various residential areas of Amsterdam-Noord.

The first, third and fourth, sixth and seventh questions are copied from the municipality's report questionnaire held in 2021 (Gemeente Amsterdam, 2022b), to be able to identify possible differences in the two surveys:

- When did you move to your current home?
- Where did you live before?
- Which of the following reasons were relevant for your decision to move to Amsterdam-Noord specifically
 - *Question asked for those who did not live in Noord before*

- To what degree do you feel 'at home' in Amsterdam-Noord?
- Has this increased or decreased in recent years?

In addition to this:

- Did the Noord-Zuidlijn play a role in your decision to move/stay in Noord?
 - *Question asked for those who moved to/in Noord after 2018*
- In your opinion, has the Noord-Zuidlijn been a beneficial addition to Amsterdam-Noord?

After this, questions on neighborhood change, in line with Van de Kamp & Welschen (2019)

- In your opinion, is Amsterdam-Noord's character changing?

After this, a question on metro ridership. Although this data exists, it only exists for the line as a whole.

- How often do you use the Noord-Zuidlijn?
- In what do you notice this?
 - *Open Question*

As this survey is anonymous, the FSS research decision tree states that a research data management plan is to be made, and standard security measures are to be taken. Privacy principles were taken into account, and respondents are made aware of this in the front page of the survey. The University of Groningen's Standard Security Settings were observed, the survey was saved under the university's two-step authorization system, and only one download of data was made on one device. See appendix C for more information.

4 Analysis

Firstly, it should be noted that while most papers pertaining specifically to Amsterdam-Noord mention the Noord area is gentrifying, few use (statistical) indicators to distinguish gentrifying areas, and take gentrification as a given; authors mention government backing to be a key element in Noord's gentrification (Hoekstra et al., 2018), both through direct interventions (construction of housing and commercial space specifically targeting new middle class residents), and indirect interventions (investments in culture and arts, facilitating artists) much like Florida (2002) describes.

Secondary Data Analysis

The following analysis is a showcase of widespread gentrification literature criteria. For this analysis, data is gathered between the years 2004 and 2022, to indicate the developments of these criteria from around the start of the line's development in 2003 until the most recent data. Neighborhoods within a 1 mile radius, a measurement used in different TIG literature, such as Dong (2017). Study neighborhoods are in close proximity to the metro line, whereas control neighborhoods are much further away and are hypothesized to not be affected by the line, or at least less so.

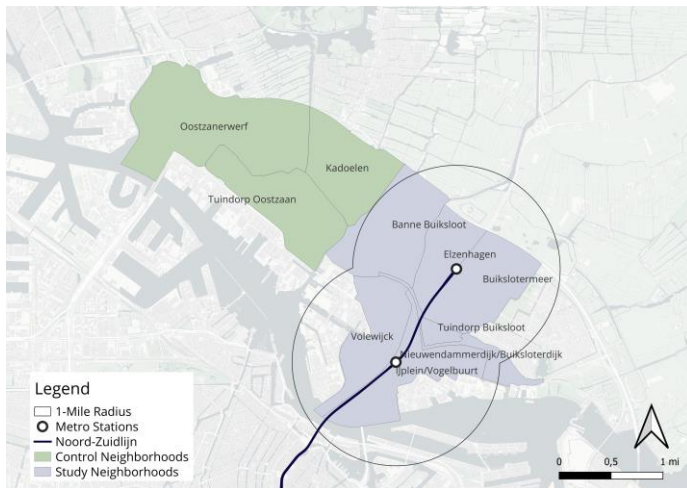


Figure 3: Amsterdam-Noord study and control neighborhoods, discerned by 1-mile radius from stations. (Source: openstreetmap contributors, Gemeente Amsterdam (2022a), own compilation)

The indicators listed in table 5 are used for the analysis. Landis (2016), among other authors, list sociodemographics and -economics as key factors, and as such, income levels are often a key indicator of gentrification, in line with Hoekstra et al. (2018), who state that the attraction of middle class residents is a key part of government-backed gentrification. As such, an increase in middle and higher incomes is expected for the whole of Amsterdam-Noord.

Income Divisions

Statistics on income divisions do not necessarily support this however, as can be seen in figure 4. Although this process of government-led gentrification started earlier than the Noord-Zuidlijn's construction and thus earlier than the data in figure 4, a steady increase in high and middle incomes is expected. Where high incomes have somewhat increased between 2004 and 2021 (from 15,0% to 16,8% in control neighborhoods, and 13,2% to 17,4% in research neighborhoods), so too have low incomes (from 42,1% to 44,9% in control, and 41,8% to 47,6% in research neighborhoods). Although this does not give the assumed indication that middle- and high-income shares have increased, it should be noted that research neighborhoods have seen a sharper increase in both high and low incomes compared to control neighborhoods.

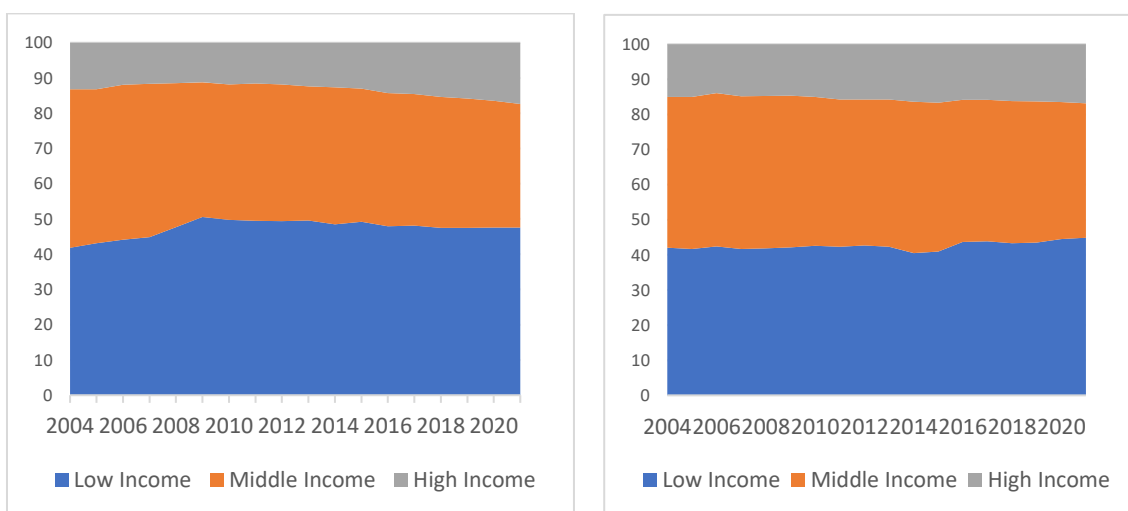


Figure 4: Income divisions in Noord, divided into research neighborhoods (left) and control neighborhoods (right). Low income = bottom 40%, High income = top 40%. (Source: CBS [2023], own compilation).

Income per income receiver

To create an equal representation of income data for Noord neighborhoods, and to enable comparison between study and control neighborhoods, a factor is used. As data before 2009 is compiled differently, it distorts the data, and is therefore not taken into account.

Again, the picture of income development in Amsterdam-Noord does not show a significant discrepancy between study neighborhoods and control neighborhoods. A dip in 2014 is in line with the rest of the city, and with regards to the NZL opening in 2018, the slightly higher index of study neighborhoods (closer to metro stations) seems to have leveled out. Notably, and perhaps contrary to general tendencies of gentrifying neighborhoods, index figures of Noord neighborhoods have dropped below the index figures of Amsterdam itself, indicating that income has increased less in Noord than in the city as a whole.

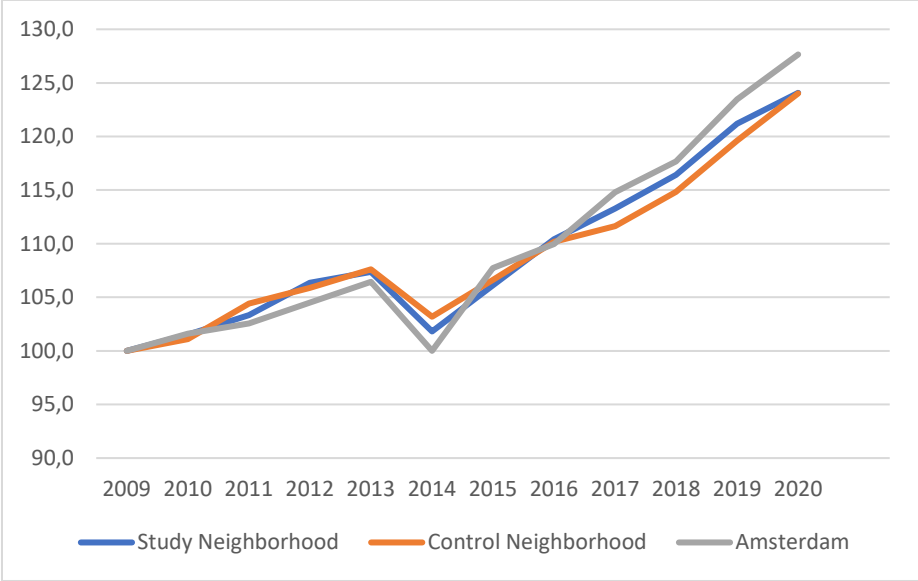


Figure 5: Development of average income per income receiver in study and control neighborhoods compared to Amsterdam. 2009=100. (Source: CBS [2023], own compilation)

Housing Stock Development

Housing stock development can be seen as an indicator of gentrification for a number of reasons. Firstly, this indicator is found in gentrification literature mentioned before, i.e. Landis (2016). Secondly, it is in line with the concept of government-led gentrification, where the housing market is partially liberalized and construction of new housing is fostered (Hoekstra et al., 2018). Finally, construction of new housing is a key aspect of TOD, a concept that has been applied to the NZL’s construction and is hypothesized in literature to link to TIG.

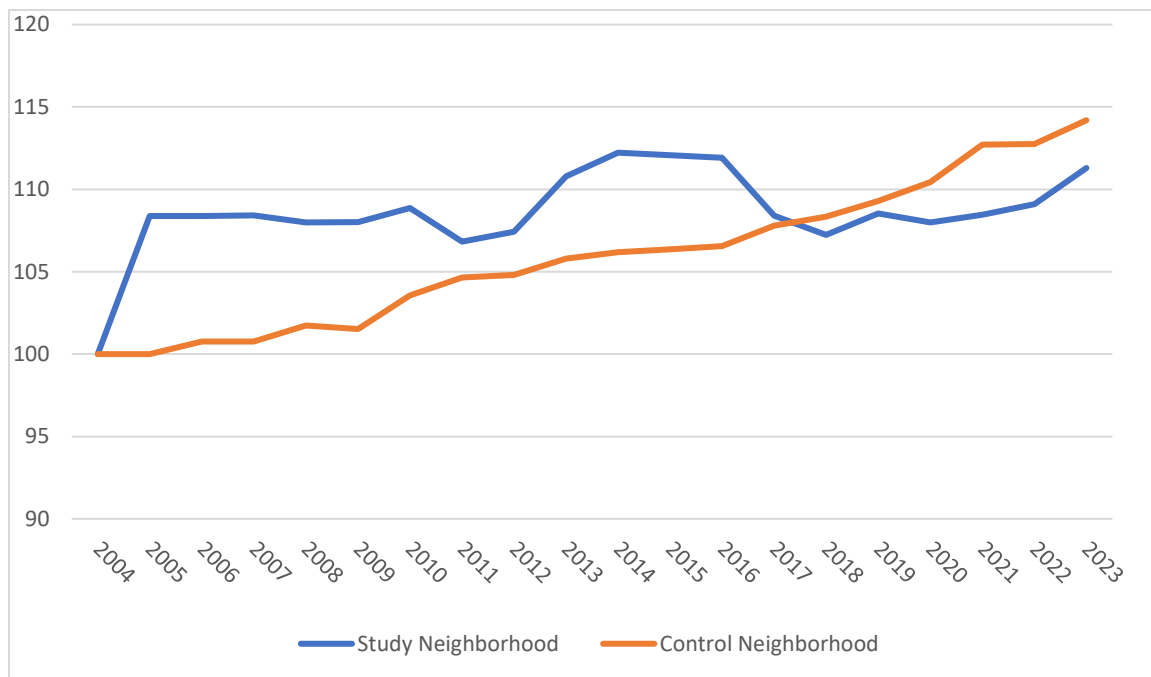


Figure 6: Index figures of housing stock development in Amsterdam Noord 2004=100 (Source: CBS [2023])

However, as can be seen in figure 6, this is not necessarily supported by data. Where the control neighborhoods have seen a steady increase in housing stock, study neighborhoods show a more erratic development and a relative decrease in the years leading up to 2018. It is not entirely clear why this is; the NZL's construction did not require any demolitions. Moreover, the municipality has numerous plans to upgrade and construct new housing in Noord (Gemeente Amsterdam, 2023a). As these are future developments, it is likely that Noord's housing stock will see a relatively sharp increase in the coming years, with over 7000 new houses to be constructed around the Noord station area alone.

Real-Estate Values

To assess the development of real estate values in Noord, so-called WOZ-values are studied. This Waardering Onroerende Zaken (=valuation of real estate) is also applied to (social) rental housing, and is thus a useful standard for Noord. To be able to focus on the development of real-estate prices of Noord itself, the data for the municipality of Amsterdam is used as a factor.

However, as can be seen below, real estate values for study and control groups do not vary drastically. However, an overall increase is witnessed since 2018. As this data is seen relative to the average real estate values of Amsterdam, macroeconomic factors are filtered out and it could therefore be hypothesized that the NZL has played a significant role in this development, with an important side note that the line has an effect over the whole of Noord, and does not adhere to the one mile principle that Dong (2017) utilizes.

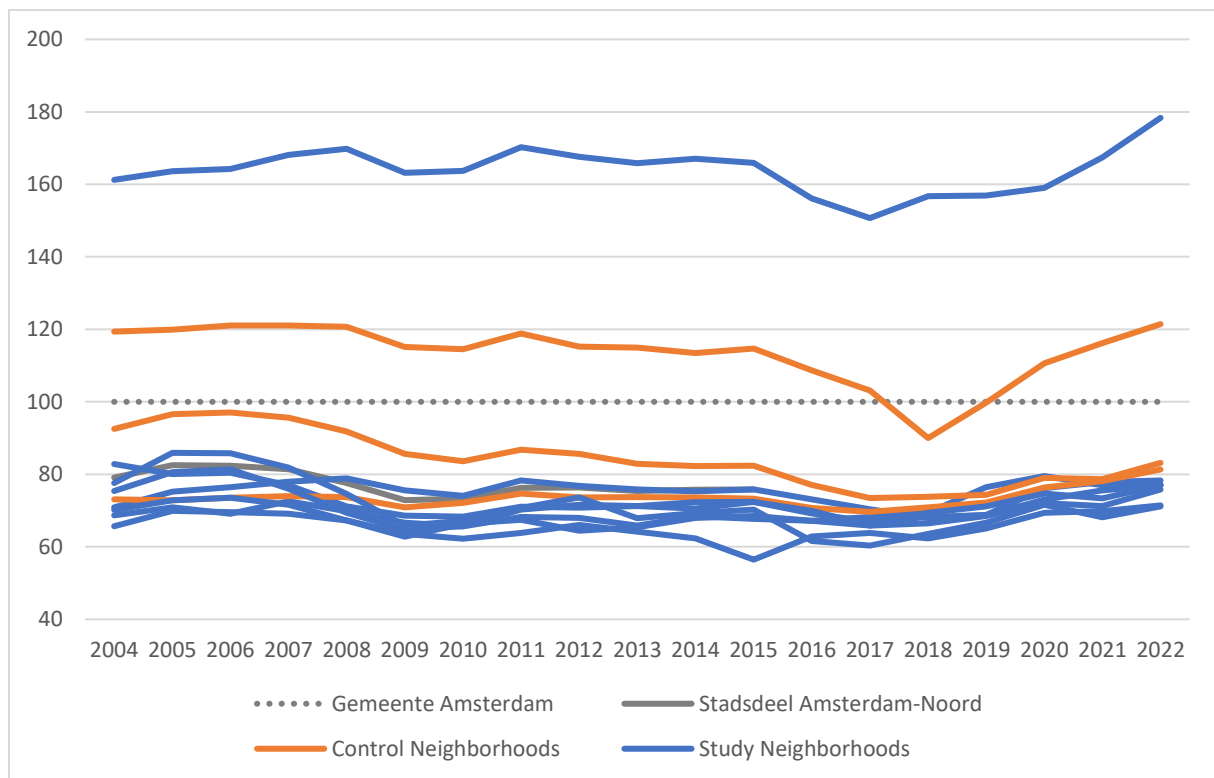


Figure 7: Real Estate Development in Amsterdam and Amsterdam-Noord (source: CBS [2023])

Survey Analysis

From a more subjective perspective, Noord residents responding to the survey viewed neighborhood change more strongly apparent. The vast majority (79,4%) found Noord's character to be changing. Although this statement in itself is very vague, when respondents were asked to motivate this, mostly gentrification criteria came forward. Some respondents noted the consequences of gentrification: the 'type of people' on the streets and as residents. These people are described as yuppies (young urban professionals), and generally more affluent than the 'old' inhabitants. They found the neighborhood to be diversifying, and a generally great place to live. Some respondents also found causes for gentrification: more housing being built was by far mentioned most, but also new shops, cafes and restaurants. In general, respondents were either neutral or positive toward these trends, something that was not expected, as gentrification usually comes with critique.

From the point of this study's academic framework, almost all criteria mentioned in the survey direct towards government-led gentrification, although restaurants and especially cafes are also mentioned by Van de Kamp & Welschen (2019) as a product of a creative scene, which can be attributed to place-branding taking place in Noord. Transit-Induced Gentrification is not mentioned.

In addition to this, a question of sense of community is asked. In their case study on Amsterdam-Noord, Van de Kamp & Welschen (2019) concluded the old 'northerners' feel their sense of community failing as a result of newcomers. Although relatively many newcomers were interviewed, none seem to feel out of place, and the majority (65,6%) note an increase in their sense of feeling 'at home' in Noord.

Next, questions on the Noord-Zuidlijn are asked. Interestingly, the majority (55,9%) of respondents indicate rarely using the line, with another 6% never using the line. This is in contrast with the perceived benefit of the Noord-Zuidlijn to Noord, as 79,4% of respondents note

the NZL to have benefitted Noord. It can therefore be argued that, although relatively few people use the line, its value is highly appreciated in Noord; it is more than transport, it is also a service.

The survey had a total of 34 responses, due to time constraints and difficulty publishing the survey. Because of this relatively low number of responses, the overall focus of the survey's results has been put on the open answers of the survey, much like an ethnographic survey.

5 Discussion

In both the past and present, how is gentrification taking place in Amsterdam-Noord?

As discussed earlier, historical events and some indicators create a story of gentrification in Amsterdam-Noord. However, because this gentrification is not the result of one process, but multiple different processes that work in each other's favor, it is difficult to pinpoint the main cause, and therefore different gentrification processes regarding Noord are taken into account. In the previous chapter, several of these have already been mentioned. Government-led gentrification and place-branding being particularly relevant and well-studied concepts in Noord.

Literature on policy analysis, ethnographic studies as well as the conducted survey all find that Amsterdam-Noord has undergone a rather drastic image change. One respondent noted that "people used to be somewhat pitiful when I told them I lived in Noord, and now everybody would like to live here" [respondent 1]. Others point at interventions in the neighborhood, most importantly the large amounts of new construction taking place, as well as new retail in Noord. These perceptions are in line with government-led gentrification (Hoekstra et al., 2018), a process known to take place in Noord (Savini et al., 2016). It is therefore clear that gentrification is apparent, both in literature/policy, and as well as in the survey.

How does Amsterdam-Noord's gentrification relate to the Noord-Zuidlijn and Transit-Oriented Development (TOD)?

However, the relationship between the Noord-Zuidlijn and gentrification is less well studied, and results of data above remain inconclusive. In their study of the NZL's effects on house prices, Aker et al. (2021) do not find significant results up until the line's opening in 2018, i.e. the extent of their study. Newer data used in this study does indicate a moderate increase in real-estate values (see figure 7), but for all Noord neighborhoods, and not specifically for the neighborhoods close to the NZL stations, which is to be expected in a TOD framework (Dong, 2017).

The survey and literature review also remains rather inconclusive when it comes to this subquestion. Literature on gentrification in Noord strongly underlines a combination of government-led gentrification and place-making, both of which are recognized and concluded to be important mechanisms of change in Noord by respondents to the survey.

It should however be noted that the concept of government-led gentrification, in which neighborhood investments, mainly into housing construction, also for the TOD paradigm. Padeiro et al. (2019) argue that TOD initiatives, in this case the NZL, often trigger investments that can change an area's landscape. Although these investments are not a part of the Noord-Zuidlijn development, they can be seen as an enforcing factor. Moreover, a large part of the new developments are built in relative proximity to the new stations. Adding onto this, new residents who are more affluent often tend to move into a newer dwelling, more so than less affluent people (Gemeente Amsterdam, 2022b).

With this, Noord is somewhat divided through its different building age. In older buildings, built long before the NZL, 'original' residents, i.e. often less affluent and more inclined to keep close neighborhood ties (Pérez, 2021). More affluent and more highly educated residents tend to move

into newer buildings (Gemeente Amsterdam, 2022b). This is in line with the survey, in which all but one of the respondents who moved after 2018 indicate using the NZL on a weekly or daily basis.

What does Transit-Induced Gentrification mean for Amsterdam-Noord? What are the (dis)advantages for the area?

Although gentrification effects relating to the NZL are rather sparse at first sight, some negative aspects do arise. As said in the last paragraph, the new housing developments are attracting a different demographic than the older parts of Noord. Although these newer housing projects are part of the same development as the Noord-Zuidlijn, people in these areas report using the NZL more than people in the older neighborhoods (Pérez, 2021; van de Kamp, 2021). People in older neighborhoods also argue the new northerners to be less inclined to be part of a tightly knit neighborhood; factors which might hinder mingling between 'old' and 'new' northerners.

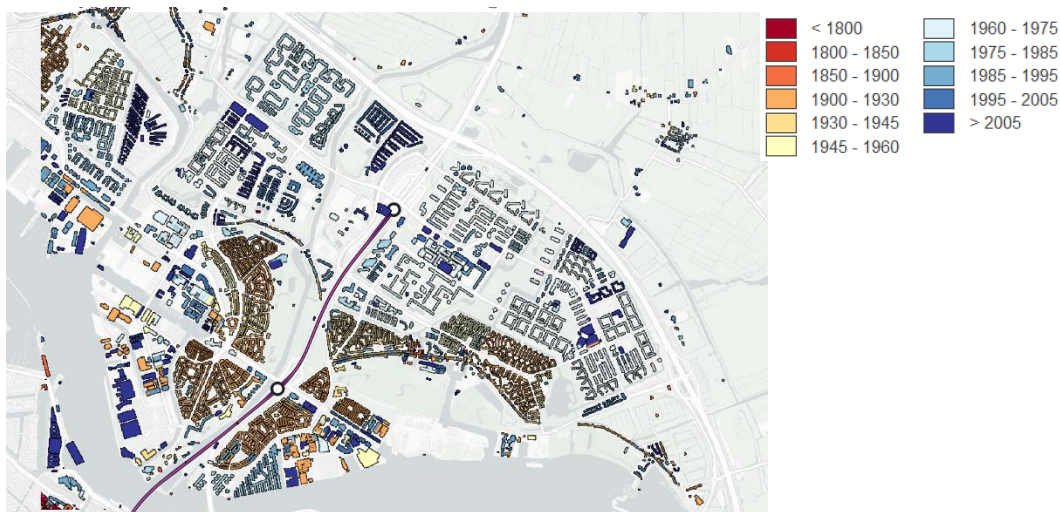


Figure 8: Building age in Amsterdam-Noord and the Noord-Zuidlijn (Source: BAG (2015), own compilation)

It should be noted that, although the NZL has been heavily debated ever since its first plans (Soetenhorst, 2018), a cost-benefit analysis of the line was never fully made, as the institutional mechanism in the Netherlands did not require this for a project of this scale at the time. Perhaps instead of this, a strong social need for the project (Mottee et al., 2020) was felt. Different stakeholders represented their own benefits and disadvantages, but the actual social impact of the Noord-Zuidlijn was not represented. One of these disadvantages is highlighted by a respondent to the survey: "I used to live next to a bus stop, and now I have to walk for 10 minutes" (respondent 2).

The relatively sparse use of the NZL by 'old' Northerners, as indicated in the survey, combined with negative external effects as seen in the paragraph above, might form an explanation to the relatively low ridership that the NZL is experiencing (Verbeek, 2023).

The complex interplay of factors within Noord, and the relative lack of comparable case studies have made it difficult to pinpoint exact answers to questions, and to generate recommendations for policy and future research. The lack of previous work, and the fact that TIG finds itself overlapping with both TOD and gentrification criteria has made it difficult to create a structural study on this matter. The used methods, although perhaps on the unorthodox side, have provided interesting insights into the processes taking place in Amsterdam-Noord. However, a combined set of methods for a relatively short study has made it difficult to create either an in-depth or statistically valid study. Although comparison between qualitative and quantitative has been beneficial to this study, a focus on either is advised.

The choice for the academic framework, with three varieties of gentrification at the center has been good from an academic perspective; it has given insight into what is otherwise a very broad topic. The academic framework has, in the end, given some structure to the study, although it would be advisable to not create a study revolving around a concept that has only emerged so recently as TIG.

This does not mean that TIG does not need to be studied. Amsterdam-Noord forms an excellent test-case for TIG, even with many other forms of gentrification taking place. In a realm of sustainable urbanism, compact cities and strong population growth, reliance on TOD can be argued to become greater and greater in coming years. A critical dialogue should therefore be constructed. As this study's main shortcoming has been the lack of definition for TIG, this is a recommendation for following research.

The hypothesis of this study ultimately has to be proven untrue, although, as said before, the complex interplay of government-led gentrification, place branding and TIG makes it difficult to measure the exact effects of the NZL. However, as the line is still new, and the neighborhoods surrounding the stations even newer, this might change in the future.

6 Conclusion

Although Amsterdam-Noord has been extensively studied over recent years, in particular in regard to gentrification and its history of gentrification, the Noord-Zuidlijn remains underrepresented in research, despite its importance and function for the rest of the city. Ridership remains somewhat limited, and the social effects of the line alone seem to remain very limited, as numeric gentrification criteria over recent years sparsely indicate gentrification in Amsterdam-Noord. However, more qualitative literature indicates residents do observe gentrification criteria, and find that their neighborhood is changing. The change in social demographics is worrisome to neighborhood who have long lived in Noord, and see their neighborhood as a closely knit community. Newer residential areas, some of which in close vicinity to the new metro stations, attract a different demographic. On one hand, this indicates a possible demographic split between older and newer neighborhoods, on the other, 'old' northerners are concerned with decay of their strong sense of community.

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Appendix A: Temporal Gentrification Criteria Analysis

Income Divisions (Figure 4)

Source: (CBS, 2023)

This data is provided per year, per neighborhood, with a low (p_ink_li) and high (p_ink_hi) statistic. Data is processed by merging neighborhoods into study and control neighborhoods, with neighborhood data weighed for neighborhood population. After this a mean average is created for each year. See below.

Control	Low	Middle	High	Study	Low	Middle	High
2004	42,08224	42,89709	15,02068	100	41,81238	45,00099	13,18663
2005	41,65833	43,34167	15	100	43,13993	43,63712	13,22295
2006	42,43821	43,62689	13,93491	100	44,15506	43,88742	11,95752
2007	41,7098	43,4932	14,797	100	44,80939	43,53315	11,65746
2008	41,90896	43,37981	14,71123	100	47,69059	40,86184	11,44757
2009	42,10812	43,26642	14,62546	100	50,57179	38,19054	11,23767
2010	42,58741	42,39623	15,01637	100	49,72759	38,47839	11,79401
2011	42,29461	41,99539	15,71	100	49,50685	38,96339	11,52976
2012	42,65734	41,61055	15,73211	100	49,41522	38,75955	11,82523
2013	42,28785	42,01315	15,699	100	49,56483	38,08892	12,34625
2014	40,52026	43,07799	16,40175	100	48,50848	38,88439	12,60713
2015	40,99835	42,37546	16,62619	100	49,20508	37,76156	13,03336
2016	43,64434	40,48762	15,86804	100	47,94507	37,79577	14,25915
2017	43,90392	40,3047	15,79138	100	48,12596	37,32259	14,55145
2018	43,34773	40,49815	16,15412	100	47,49257	37,0941	15,41334
2019	43,53728	40,18199	16,28073	100	47,46933	36,72839	15,80228
2020	44,46723	39,09871	16,43406	100	47,53797	35,96177	16,50026
2021	44,91154	38,26833	16,82014	100	47,55788	35,0725	17,36962

Income per Income Receiver (Figure 5)

Source: (CBS, 2023)

An average is made for all control and all study neighborhoods over the years since 2009. In this year, a different calculation method was introduced by CBS, creating a disturbance. Because of this, data after 2009 is used. A factor is made for the year 2009, all following years are divided by this factor.

Study Neighborhoods	16,8714286	16,525	16,6625	17	21,2	25,4	25,7875	26,25	27,0125	27,275	25,8625	26,95	28,04286	28,77143	29,57143	30,78571	31,51429	29,24
Control Neighborhoods	16,7333333	16,76667	17,13333	17,16667	22,18333	27,2	27,5	28,4	28,8	29,26667	28,06667	29	29,96667	30,36667	31,23333	32,53333	33,73333	35,5
Amsterdam	18,4	18,6	19	19,4	25,25	31,1	31,6	31,9	32,5	33,1	31,1	33,5	38,9	39,9	41,8	41,9	39,9	42,6
Study index	100,0	97,9	98,8	100,8	125,7	150,6	152,8	155,6	160,1	161,7	153,3	159,7	166,2	170,5	175,3	182,5	186,8	173,3
Control index	100,0	100,2	102,4	102,6	132,6	162,5	164,3	169,7	172,1	174,9	167,7	173,3	179,1	181,5	186,7	194,4	201,6	212,2
Amsterdam index	100,0	101,1	103,3	105,4	137,2	169,0	171,7	173,4	176,6	179,9	169,0	182,1	211,4	216,8	227,2	227,7	216,8	231,5
						2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
					Study inde	100,0	101,5	103,3	106,3	107,4	101,8	106,1	110,4	113,3	116,4	121,2	124,1	115,1
					Control Inc	100,0	101,1	104,4	105,9	107,6	103,2	106,6	110,2	111,6	114,8	119,6	124,0	130,5
					Amsterdar	100,0	101,6	102,6	104,5	106,4	100,0	107,7	125,1	128,3	134,4	134,7	128,3	137,0

Housing Stock Development (Figure 6)

Source: (CBS, 2023)

Control neighborhoods and Study neighborhoods are added up, a factor is made for 2004 and all following years are divided by this factor.

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
stadsdeel		39455	39540	39540	39260	39195	39210	39055	39710	40944	41425	41491	41557							
volewijk	4915	4920	4905	4905	4895	4890	4880	4805	4805	4845	4845	4840,5	4836	4837	4899	4885	4882	4879	4879	4878
ijplein	3895	3910	3895	4025	4025	4025	4020	4020	4020	4072	4071	4071	4071	4071	4070	4104	4113	4151	4152	4200
tuindorp nieuwendam		1850	1845	1850	1850	1845	1845	1845	1840	1846	1845	1844	1843	1844	1843	1842	1842	1842	1842	1840
tuindorp b	930	905	915	910	910	910	920	910	900	903	903	903	903	912	912	912	912	912	912	909
Nieuwenda	610	625	615	615	610	610	600	615	635	651	637	636	635	626	629	630	630	629	630	636
Tuindorp O	4520	4530	4590	4585	4675	4645	4785	4870	4870	4952	4985	4998	5011	5069	5120	5207	5237	5398	5398	5491
Oostzanen	3600	3580	3600	3605	3605	3615	3665	3680	3685	3682	3686	3687,5	3689	3688	3688	3687	3688	3689	3690	3730
Kadoelen	1135	1145	1135	1135	1135	1135	1135	1135	1145	1157	1156	1158,5	1161	1220	1220	1222	1297	1345	1347	1348
Nieuwenda	5760	5725	5760	5635	5560	5575	5630	5075	5170	5341	5607	5482	5357	5453	5512	5680	5555	5621	5753	5761
Buikslotern	5405	5385	5385	5385	5385	5385	5530	5715	5745	6179	6238	6336,5	6435	5579	5207	5301	5301	5301	5304	5721
Banne Buil	6015	5995	6025	6025	5755	5705	5345	5345	5755	5664	5782	5817,5	5853	5923	5970	5953	5980	6051	6260	6264
Buiksloterh	45	50	45	40	40	40	40	210	295	778	775	821,5	868	879	1484	1785	2263	3473	3271	4075
Nieuwenda	60	60	60	60	60	60	60	60	60	66	67	67	67	73	74	193	191	197	197	195
Waterland	740	775	760	760	760	760	760	770	775	808	828	828	828	834	847	878	882	895	896	899
														872	885	986	1074	1620	1912	2432
	378575	380145	381830	383080	387530	391180	394195	397465	399815	411127	413697	415331,5	416966							
	39455	39455	39540	39540	39260	39195	39210	39055	39710	40944	41425	41491	41557	42439	42803	43271	44149	44735	44998	45839
study	21515	23320	23320	23325	23235	23240	23425	22985	23115	23837	24146	24113	24080	23322	23072	23354	23235	23335	23472	23945
control	9255	9255	9325	9325	9415	9395	9585	9685	9700	9791	9827	9844	9861	9977	10028	10116	10222	10432	10435	10569
study inde:	100	108,3895	108,3895	108,4127	107,9944	108,0177	108,8775	106,8324	107,4367	110,7925	112,2287	112,0753	111,9219	108,3988	107,2368	108,5475	107,9944	108,4592	109,096	111,2944
control inc	100	100	100,7563	100,7563	101,7288	101,5127	103,5656	104,6461	104,8082	105,7915	106,1804	106,3641	106,5478	107,8012	108,3522	109,3031	110,4484	112,7175	112,7499	114,1977
Noord	100	100	100,2154	100,2154	99,50577	99,34102	99,37904	98,98619	100,6463	103,7739	104,993	105,1603	105,3276	107,563	108,4856	109,6718	111,8971	113,3823	114,0489	116,1805

Real Estate Values / WOZ Waardes (Figure 7)

Source: (CBS, 2023)

Gemeentenaam	Gemeente	Stadsdeel	Volewijk	IJplein en \	Tuindorp N	Tuindorp E	Nieuwend	Tuindorp C	Oostzaner	Kadoelen	Nieuwend: Buiksloter	Banne	Buil
2004	100	79	66	69	71	83	161	73	93	119	70	78	75
2005	100	83	70	71	75	80	164	73	97	120	73	86	81
2006	100	82	70	69	76	80	164	74	97	121	74	86	81
2007	100	81	69	73	78	77	168	74	96	121	72	82	76
2008	100	78	67	70	79	71	170	74	92	121	67	75	69
2009	100	73	64	67	76	69	163	71	86	115	63	66	65
2010	100	73	62	66	74	68	164	72	84	115	66	67	66
2011	100	76	64	68	78	71	170	75	87	119	67	71	70
2012	100	76	66	68	77	71	168	74	86	115	64	74	72
2013	100	75	64	66	76	71	166	74	83	115	65	68	71
2014	100	76	62	68	75	71	167	74	82	113	68	69	72
2015	100	76	56	68	76	72	166	73	82	115	69	70	72
2016	100		63	67	73	69	156	71	77	109	67	62	70
2017	100		64	68	70	67	151	70	73	103	66	60	66
2018	100		62	69	68	68	157	71	74	90	66	64	69
2019	100		65	76	69	69	157	72	74	100	69	67	71
2020	100		69	80	76	73	159	76	79	111	72	72	75
2021	100		70	77	78	76	167	78	79	116	71	68	73
2022	100		71	77	78	77	178	81	83	121	76	71	77

Real estate values are divided by the factor of the Amsterdam average.

Appendix B: Neighborhood Survey

This survey was created in Google Forms and was posted on two of Amsterdam-Noord's Facebook groups:

- Amsterdam-Noord: <https://www.facebook.com/groups/47019876484>
- I love Amsterdam Noord: <https://www.facebook.com/groups/1749034192055447/>

(English version below)

In deze korte vragenlijst wordt uw mening gevraagd over de Noord-Zuidlijn, Amsterdam-Noord en wat de metro voor Noord betekent heeft. Uw antwoorden worden gebruikt voor een kort onderzoek over de veranderingen die Amsterdam-Noord in de afgelopen jaren heeft doorgemaakt, en de rol die de Noord-Zuidlijn daarin heeft gespeeld.

Uw antwoorden worden anoniem opgeslagen, m.a.w. uw e-mailadres wordt niet opgeslagen. Uw antwoorden worden pas opgeslagen wanneer u op verzenden drukt aan het einde van de vragenlijst (ca. 10 vragen). Dat betekent dat u op elk moment kunt stoppen met deze vragenlijst zonder dat uw antwoorden gebruikt zullen worden. Daarnaast kan een verzonden vragenlijst tot 14 januari verwijderd worden. Dit kan door een e-mail te sturen naar m.j.lieffijn@student.rug.nl. Ook voor verdere vragen kunt u hier terecht.

Bij voorbaat dank!

In this short questionnaire, your opinion is asked about the Noord-Zuidlijn metro line, the city-part of Amsterdam-Noord, and what the metro line has meant for Amsterdam-Noord. Your answers will be used for a short research article on changes in Amsterdam-Noord in recent years, and the role the Noord-Zuidlijn has played in this.

Your answers are stored anonymously, i.e. your e-mail address will not be stored. Your responses are only recorded at the end of the questionnaire (around 10 questions), when you press the 'send' button. This means that you can choose to cancel at any time, without your responses being used for this research. Moreover, a sent questionnaire can be deleted until January 14th. To do this, you can send an e-mail to m.j.lieffijn@student.rug.nl. Please contact this e-mail address for any other questions that might arise.

Thank you!

1.

Wanneer bent u naar uw huidige huis verhuisd?

When did you move to your current home?

Mark only one oval.

- Voor / Before 2003
- Skip to question 3
- 2003-2007
- Skip to question 3
- 2008-2012
- Skip to question 3
- 2013-2017
- Skip to question 3
- 2018 of later
- Skip to question 2

2.

Heeft de Noord-Zuidlijn meegewogen in uw besluit om in Noord te gaan/blijven wonen?

Did the Noord-Zuidlijn play a role in your decision to move/stay in Noord?

Mark only one oval.

- Ja | Yes
- Nee / Niet echt | No / Not really

3.

Waar woonde u hiervoor?

Where did you live before?

Mark only one oval.

- Al(ready) in Noord
- Elders in Amsterdam | Somewhere else in Amsterdam
- Elders in Nederland | Somewhere else in the Netherlands
- Buiten Nederland | Outside the Netherlands

4.

Wat waren belangrijke zaken die meespeelden om specifiek voor Noord te kiezen?

Which of the following were relevant for your decision to move to Amsterdam-Noord specifically?

Check all that apply.

- Ruimte / Groter wonen | Space / More spacious housing
- Een dorps gevoel / a village-y character
- Betere bereikbaarheid voor auto's | Better accessibility by car
- Dichter bij werk/studie wonen | Living closer to work/study
- Dichter bij vrienden/familie wonen | Living closer to friends/family
- (Ruimere) beschikbaarheid van woningen | (Higher) housing availability
- Other:

5.

Heeft u het idee dat het karakter van Noord aan het veranderen is?

In your opinion, is Amsterdam-Noord's character changing?

Mark only one oval.

- Ja | Yes

Skip to question 6

- Nee | No

Skip to question 7

6.

Waar merkt u dit aan?

In what do you notice this?

-

7.

In welke mate voelt u zich thuis in Noord?

To what degree do you feel 'at home' in Amsterdam-Noord?

Mark only one oval.

Absoluut niet | Not at all

- 1

- 2
- 3 (measured on scale 1-5)
- 4
- 5

Absoluut wel | Very much so

8.

Is dit in de afgelopen jaren toegenomen of afgenomen?

Has this increased or decreased in recent years?

Mark only one oval.

- Toegenomen | Increased
- Afgenomen | Decreased

9.

Hoe vaak maakt u gebruik van de Noord-Zuidlijn?

How often do you use the Noord-Zuidlijn?

Mark only one oval.

- Dagelijks | Daily
- Wekelijks | Weekly
- Een enkele keer per maand / Zelden | Once a month / Rarely
- Nooit | Never

10.

Vind u dat de Noord-Zuidlijn iets goeds heeft toegevoegd aan Noord?

In your opinion, has the Noord-Zuidlijn been a beneficial addition to Amsterdam-Noord?

Mark only one oval.

- Ja | Yes
- Misschien | Maybe
- Nee | No

11.

Bedankt voor het invullen van deze vragenlijst! Mocht u vragen of opmerkingen hebben, dan kunt u deze samen met uw e-mailadres hier achterlaten.

Thank you very much for filling in this questionnaire! If you have any questions or comments, please fill these in below and leave your e-mail address.

Data:

Timestamp	Wanneer bent u naar uw huidige huis verhuisd? When did you move to your current home?	Heeft de Noord-Zuidlijn meegewogen in uw besluit om te gaan/blijven wonen? Did the Noord-Zuidlijn play a role in your decision to move/stay in Noord?	Waar woonde u hiervoor? Where did you live before?	Wat waren belangrijke zaken die meespeelden om specifiek voor Noord te kiezen? Which of the following were relevant for your decision to move to Amsterdam-Noord specifically?	Heeft u het idee dat het karakter van Noord aan het veranderen is? In your opinion, is Amsterdam-Noord's character changing?	Waar merkt u dit aan? In what do you notice this?	In welke mate voelt u zich thuis in Noord? To what degree do you feel 'at home' in Amsterdam-Noord?	Is dit in de afgelopen jaren toegenomen of afgenomen? Has this increased or decreased in recent years?	Hoe vaak maakt u gebruik van de Noord-Zuidlijn? How often do you use the Noord-Zuidlijn?	Vind u dat de Noord-Zuidlijn iets goeds heeft toegevoegd aan Noord? In your opinion, has the Noord-Zuidlijn been a beneficial addition to Amsterdam-Noord?	Bedankt voor het invullen van deze vragenlijst! Mocht u vragen of opmerkingen hebben, dan kunt u deze samen met uw e-mailadres hier achterlaten. Thank you very much for filling in this questionnaire! If you have any questions or comments, please fill these in below and leave your e-mail address.
1/2/2024 9:33:24	Voor / Before		Elders in Amsterdam Somewhere else in Amsterdam	Ruimte / Groter wonen Space / More spacious housing	Ja Yes	Het type mensen dat je op straat ziet. En dat vroeger iedereen meewarig je aankeek als je zei dat je in noord woont en nu iedereen het leuk vindt om	3	Een enkele keer per maand / Zelden Once a month /	Ja Yes	Ik woonde eerst naast een bushalte nu moet ik 10 minuten lopen.	

						hier te wonen			Rarely		
1/2/2024 10:30:13	2018 of later	Nee / Niet echt No / Not really	Al(ready) in Noord	Na scheiding vlakbij de school van mn kinderen blijven	Ja Yes	Heel andere bewoners, meer 'yuppen' / hogere inkomens en twee verdiemers. Veel 'zelfbouwkavels', vs vroeger voornamelijk volksbuurten en lagere inkomens. Hierdoor ook iets minder saamhorigheid.	5	Toegenomen Increased	Een enkele keer per maand / Zelden Once a month / Rarely	Ja Yes	Is dit in de afgelopen jaren toegenomen of afgenomen? > hier is mijn antwoord eigenlijk gelijk gebleven. Maar die zat er niet bij ;)
1/2/2024 13:03:17	2018 of later	Ja Yes	Elders in Amsterdam Somewhere else in Amsterdam	Dichter bij vrienden/familie wonen Living closer to friends/family	Ja Yes	Het verjongd hier wel. En wordt veel diverser qua mensen en inkomensklasse n.	5		Wekelijks Weekly	Ja Yes	
1/3/2024 15:53:50		Nee / Niet echt No / Not really	Al(ready) in Noord	Een dorps gevoel / a village-y character, Betere bereikbaarheid voor auto's Better accessibility by car, Dichter bij vrienden/familie wonen Living closer to friends/family	Ja Yes	De mensen die er komen wonen en de nieuwe huizen	5	Afgenomen Decreased	Een enkele keer per maand / Zelden Once a month / Rarely	Ja Yes	
1/5/2024 14:25:13	Voor /		Al(ready) in Noord	Dichter bij vrienden/familie	Ja Yes	Veel grote flats	5	Toegenomen	Nooit Never	Misschien	

	Bef ore 200 3			wonen Living closer to friends/family				Increased		Maybe	
1/5/2024 0:16:17	201 8 of late r	Nee / Niet echt No / Not really	Elders in Amsterd am Somewh ere else in Amsterd am	Ruimte / Groter wonen Space / More spacious housing	Nee No			Toegeno men 3 Increased	Dagelij ks Daily	Ja Yes	jeffersonsilvasousa92@gm ail.com
1/6/2024 12:27:45	201 8 of late r	Ja Yes	Elders in Amsterd am Somewh ere else in Amsterd am	Relatie	Ja Yes		Meer woningen, meer horecagelegenh eden.	Toegeno men 3 Increased	Wekelij ks Weekly	Ja Yes	
1/6/2024 20:36:01	201 3- 201 7		Elders in Amsterd am Somewh ere else in Amsterd am	Ruimte / Groter wonen Space / More spacious housing	Ja Yes		Lege plekken worden gebruikt om te bebouwen	Toegeno men 4 Increased	Een enkele keer per maand / Zelden Once a month / Rarely	Ja Yes	
1/7/2024 20:38:27	201 3- 201 7		Elders in Amsterd am Somewh ere else in	Ruimte / Groter wonen Space / More spacious housing, (Ruimere) beschikbaarheid	Ja Yes		Meer aanbod (koffientjes ed) voor ons	Toegeno men 5 Increased	Een enkele keer per maand /	Ja Yes	

			Amsterdam	van woningen (Higher) housing availability					Zelden Once a month / Rarely	
1/8/2024 22:56:11	2008-2012		Buiten Nederland Outside the Netherlands	Dichter bij werk/studie wonen Living closer to work/study	Ja Yes	the new buildings and stores	3	Afgenomen Decreased	Wekelijks Weekly	Ja Yes
1/9/2024 0:09:29	2013-2017		Elders in Amsterdam Somewhere else in Amsterdam	Een dorps gevoel / a village-y character, Dichter bij vrienden/familie wonen Living closer to friends/family	Nee No		4	Afgenomen Decreased	Een enkele keer per maand / Zelden Once a month / Rarely	Ja Yes
1/11/2024 0:13:43	2018 of later	Ja Yes	Elders in Amsterdam Somewhere else in Amsterdam	Ruimte / Groter wonen Space / More spacious housing, Een dorps gevoel / a village-y character	Ja Yes	Er wordt veel gebouwd. Ik heb het gevoel dat er de afgelopen jaren veel anderen vanuit andere plekken in amsterdam naar noord zijn verhuisd, net als ik	4	Toegenomen Increased	Wekelijks Weekly	Ja Yes
1/14/2024 14:32:35	2008-201		Elders in Nederland	Dichter bij werk/studie wonen Living	Ja Yes		3	Afgenomen Decrease	Wekelijks Weekly	Ja Yes

	2		Somewhere else in the Netherlands	closer to work/study				d			
1/16/2024 8:36:03	2018 of later	Nee / Niet echt No / Not really	Al(ready) in Noord	Ruimte / Groter wonen Space / More spacious housing, Dichter bij vrienden/familie wonen Living closer to friends/family, (Ruimere) beschikbaarheid van woningen (Higher) housing availability	Ja Yes	t word diverser	4	Toegenomen Increased	Een enkele keer per maand / Zelden Once a month / Rarely	Misschien Maybe	
1/16/2024 10:23:11	Voor / Before 2003		Elders in Amsterdam Somewhere else in Amsterdam	Een dorps gevoel / a village-y character, Dichter bij vrienden/familie wonen Living closer to friends/family	Ja Yes	de rest van amsterdam wil dat noord er echt bij hoort tegenwoordig, vroeger niet	5	Toegenomen Increased	Een enkele keer per maand / Zelden Once a month / Rarely	Ja Yes	
1/16/2024 19:42:18	2018 of later	Nee / Niet echt No / Not really	Al(ready) in Noord	Ruimte / Groter wonen Space / More spacious housing	Nee No		4	Afgenomen Decreased	Dagelijks Daily	Ja Yes	
1/18/2024 14:50:56	Voor / Before		Elders in Nederland	(Ruimere) beschikbaarheid van woningen	Ja Yes	de boel wordt volgebouwd	4	Afgenomen Decrease	Een enkele keer	Nee No	

	ore 200 3		Somewhere else in the Netherlands	(Higher) housing availability				d	per maand / Zelden Once a month / Rarely		
1/18/2024 17:52:35	Voor / Before 200 3		Elders in Amsterdam Somewhere else in Amsterdam	Ruimte / Groter wonen Space / More spacious housing, Dichter bij vrienden/familie wonen Living closer to friends/family	Nee No			Afgenomen Decreased 2	Een enkele keer per maand / Zelden Once a month / Rarely	Ja Yes	
1/19/2024 11:58:05	201 3- 201 7		Elders in Amsterdam Somewhere else in Amsterdam	Betere bereikbaarheid voor auto's Better accessibility by car, (Ruimere) beschikbaarheid van woningen (Higher) housing availability	Ja Yes	er is meer te doen in noord zelf		Toegenomen Increased 5	Wekelijks Weekly	Ja Yes	
1/20/2024 7:20:30	Voor / Before 200 3		Elders in Nederland Somewhere else in the Netherlands	Een dorps gevoel / a village-y character	Ja Yes	lots of new construction work		Toegenomen Increased 4	Een enkele keer per maand / Zelden Once a	Ja Yes	

									month / Rarely		
1/20/2024 17:00:33	201 8 of late r	Ja Yes	Al(ready) in Noord	Ruimte / Groter wonen Space / More spacious housing, Dichter bij werk/studie wonen Living closer to work/study	Ja Yes	het type mensen dat hier komt wonen		4 Toegeno men Increased	Een enkele keer per maand / Zelden Once a month / Rarely	Ja Yes	
1/25/2024 13:32:17	Voo r / Bef ore 200 3		Elders in Amsterd am Somewh ere else in Amsterd am	Ruimte / Groter wonen Space / More spacious housing, Dichter bij werk/studie wonen Living closer to work/study, Dichter bij vrienden/familie wonen Living closer to friends/family	Ja Yes			4 Toegeno men Increased	Wekelij ks Weekly	Ja Yes	
1/25/2024 15:04:50	201 3- 201 7		Al(ready) in Noord	Betere bereikbaarheid voor auto's Better accessibility by car, Dichter bij werk/studie wonen Living closer to work/study, Dichter bij vrienden/familie	Nee No			3 Toegeno men Increased	Dagelij ks Daily	Ja Yes	

				wonen Living closer to friends/family						
1/28/2024 9:56:18	Voor / Before 2003		Al(ready) in Noord	Ruimte / Groter wonen Space / More spacious housing	Ja Yes	het is van een volkswijk naar een stadswijk gegaan		Afgenomen Decreased 5	Nooit Never	Misschien Maybe
2/1/2024 17:07:41	2018 of later	Nee / Niet echt No / Not really	Elders in Amsterdam Somewhere else in Amsterdam	Ruimte / Groter wonen Space / More spacious housing	Ja Yes	it's busier, and more stores have opened		Toegenomen Increased 4	Wekelijks Weekly	Ja Yes
2/2/2024 5:57:49	2013-2017		Elders in Amsterdam Somewhere else in Amsterdam	Ruimte / Groter wonen Space / More spacious housing, Dichter bij vrienden/familie wonen Living closer to friends/family	Nee No			Toegenomen Increased 5	Een enkele keer per maand / Zelden Once a month / Rarely	Misschien Maybe
2/4/2024 14:11:53	2018 of later	Ja Yes	Elders in Amsterdam Somewhere else in Amsterdam	Een dorps gevoel / a village-y character, Dichter bij werk/studie wonen Living closer to work/study, Dichter bij vrienden/familie	Ja Yes			Toegenomen Increased 3	Een enkele keer per maand / Zelden Once a	Ja Yes

				wonen Living closer to friends/family				month / Rarely			
2/4/2024 17:15:48	2018 of later	Nee / Niet echt No / Not really	Al(ready) in Noord	Ruimte / Groter wonen Space / More spacious housing, Een dorps gevoel / a village-y character	Ja Yes	meer bebouwing, ander slag volk op straat	3	Afgenomen Decreased	Dagelijks Daily	Ja Yes	
2/4/2024 23:19:55	Voor / Before 2003		Elders in Amsterdam Somewhere else in Amsterdam	Dichter bij werk/studie wonen Living closer to work/study, (Ruimere) beschikbaarheid van woningen (Higher) housing availability, familieomstandigheden	Ja Yes	Er zijn rijkere mensen komen te wonen; een beetje grachtengordelachtig. het gaat wel ten koste van het dorpse karakter	4	Afgenomen Decreased	Een enkele keer per maand / Zelden Once a month / Rarely	Ja Yes	
2/5/2024 8:22:40	2008-2012		Elders in Amsterdam Somewhere else in Amsterdam	(Ruimere) beschikbaarheid van woningen (Higher) housing availability	Ja Yes	Toen ik hier kwam woonde ik me een vreemde eend in de bijt, iedereen had een hele hechte band met elkaar maar het was lastig om daar tussen te komen. Dat bestaat nog steeds maar veel minder sterk. De mensen die hier zijn komen wonen hebben	4	Toegenomen Increased	Een enkele keer per maand / Zelden Once a month / Rarely	Ja Yes	Klinkt interessant! Hou me op de hoogte!

						geen zin in dat soort taferelen denk ik					
2/6/2024 14:11:40	Voor / Before 2003		Elders in Amsterdam Somewhere else in Amsterdam	Een dorps gevoel / a village-y character, Dichter bij werk/studie wonen Living closer to work/study	Nee No		4	Toegenomen Increased	Een enkele keer per maand / Zelden Once a month / Rarely	Ja Yes	
2/6/2024 15:30:16	2018 of later	Nee / Niet echt No / Not really	Elders in Amsterdam Somewhere else in Amsterdam	Dichter bij werk/studie wonen Living closer to work/study, (Ruimere) beschikbaarheid van woningen (Higher) housing availability	Ja Yes	Het wordt diverser, meer mensen uit verschillende bevolkingslagen	3	Toegenomen Increased	Een enkele keer per maand / Zelden Once a month / Rarely	Misschien Maybe	
2/7/2024 17:32:27	Voor / Before 2003		Elders in Amsterdam Somewhere else in Amsterdam	Ruimte / Groter wonen Space / More spacious housing, Dichter bij werk/studie wonen Living closer to work/study, Dichter bij vrienden/familie wonen Living closer to friends/family	Ja Yes	andere mensen, drukkere mensen	5	Toegenomen Increased	Wekelijks Weekly	Ja Yes	

2/9/2024 8:33:28	200 8- 201 2		Elders in Nederlan d Somewh ere else in the Netherla nds	Dichter bij vrienden/familie wonen Living closer to friends/family	Ja Yes			Afgenome n Decrease 3 d	Een enkele keer per maand / Zelden Once a month / Rarely	Nee No	
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