

# What makes a real estate market transparent?

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## **1. INTRODUCTION**

Transparency is the base for an adequate property tax system. Good communication of understandable information can lower appeals and increase trust in the broad property tax system. But being transparent with the data on the assessed property values is only possible when also the property market is transparent. When the taxpayer has no information on actual market level and for instance recent sales prices, it is still not possible to check the correctness of the assessment.

This paper explores the underlying concepts of what is needed to conclude a real estate market is transparent. Of course, this transparency is useful for an open market where buyers and sellers of real estate can act freely, and an optimal market equilibrium can be reached. But in this paper, we stress the elements of an open transparent real estate market that are considered important for mass appraisal for property tax, for explaining the assessed value to the taxpayer and to gain trust of taxpayers in the property tax system in general.

We bring this analysis from the viewpoint of the Dutch property market, especially the housing market, and the Dutch property tax regime. For this analysis the system of base registers in the Netherlands is very important, because this system is an important source of data for the government organisations levying tax and assessing properties. But this system is also very important for individuals when active on the real estate market or as an interested taxpayer.

## 1.1 The Netherlands

### Government

With roughly 17.5 million inhabitants and an area of 41.543 km<sup>2</sup>, the Netherlands is a densely populated country located in Western Europe. The Netherlands has three layers of government: the central government, the regional (provincial) government and the local government:

- The central government consist of the administration, departments and advisory committees. The current cabinet has 20 ministers for 12 departments.
- As regional government the Netherlands has 12 provinces.
- At local level the Netherlands had two separate forms of decentralized government: 21 polder boards and 344 municipalities. The municipalities and the polder boards are both types of local governments and spread the whole country. The figures 1 till 4 show the distribution of the governments.

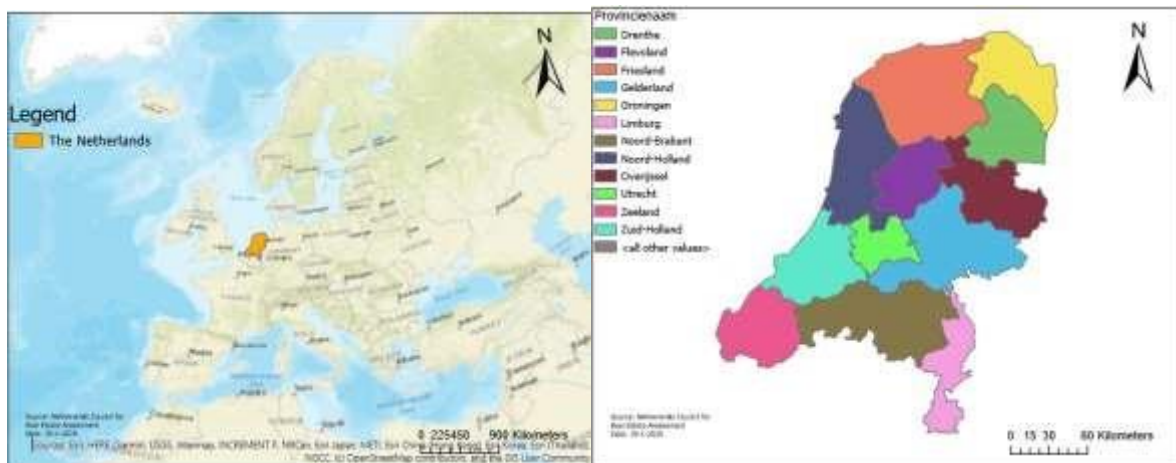


Figure 1. Location of the Netherlands

Figure 2. Provinces of the Netherlands



Figure 3. Polder boards in the Netherlands

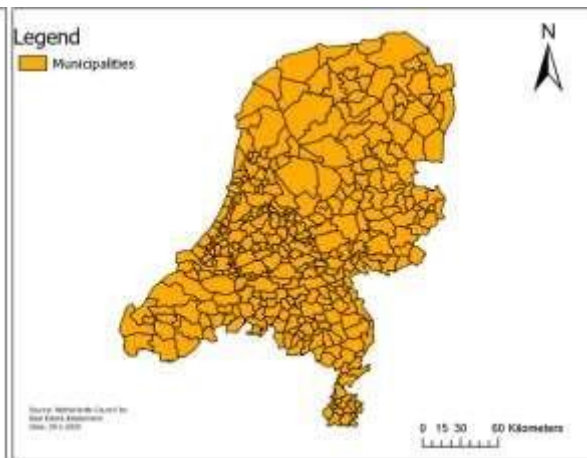


Figure 4. Municipalities in the Netherlands

Both the central, regional and the local government have the authority to levy taxes and in doing so the central and both local governments have a type of property tax that makes use, among other things, of the value of real estate properties for these taxes.

### *Real estate market*

In the Netherlands there are around 9 million (taxable) properties. 8 million of these are residential properties. Of these residential properties 4,5 million are owner occupied houses (60 %) and 3,5 million are rental houses (40 %). Of these rental houses over 60% are subsidized social houses with a regulated rent price.

In the Netherlands transfer of Real estate is done by registering a notarial deed in the cadastral registration. The Cadastre in the Netherlands is a central organisation, and this results in a central registration of ownership of real estate, of all real estate transactions and of sales prices.

There are around 200.000 sales each year registered by the Cadastre, most of them concerns residential property. At the start of 2022 the average sale price for a house is € 430.000. There are large regional differences in market prices for houses ranging from around € 1.800 per square meter in some municipalities to around € 6.500 per square meter in average in the more expensive municipalities.

## 2. INFORMATION FROM THE SYSTEM OF BASE REGISTERS

In The Netherlands, a number of registers have been formally designated as a base register. In these registers, certain important data about citizens, businesses and institutions have been recorded in a centralized manner. These registers are primarily intended for official use by government agencies on central level and decentralized level (municipalities) etc. However, some of these registers are also available for public use. This system should deliver "authentic data" of such a high quality that the government could use this information for its work without any further investigation. One of the most important concepts behind this idea is the mandatory feedback. At the moment, the user of data from a base register doubts the reliability of the data he may deviate from this data, only if the doubt about the reliability of the data has been reported back to the organization that is responsible for the data within that base register. The data will be given a notation and the administrator will then investigate the correctness of the data. In this way, a self-cleansing system is being created.

For information on the real estate market within this system of base registers the most important registers are the Base Register Cadastre, the base register Buildings and Addresses and the base registers of Value

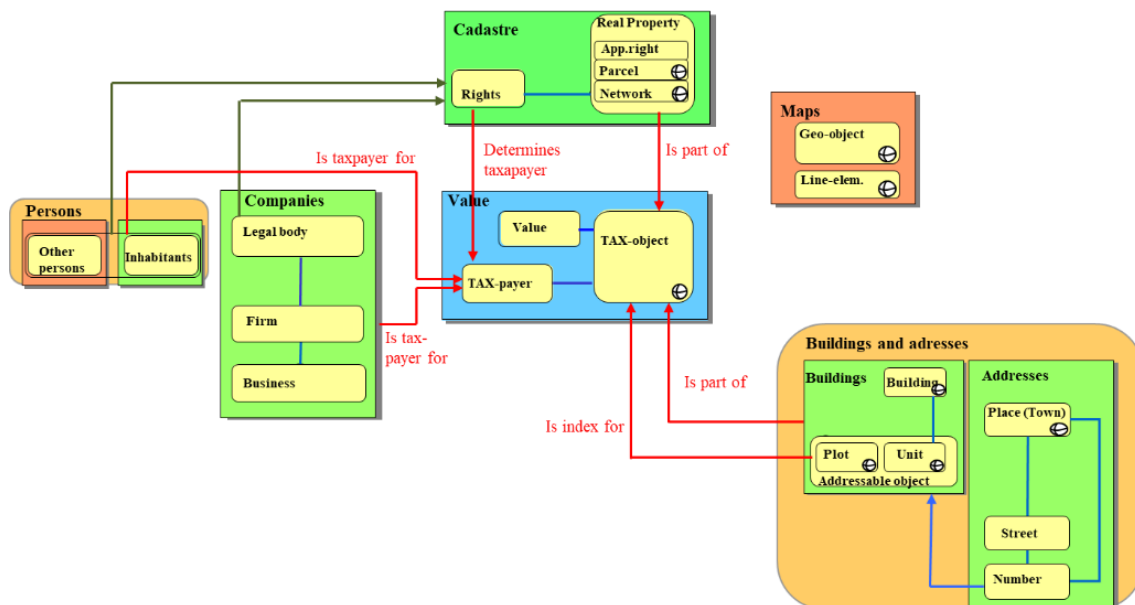


Figure 5: Parts of the base registration system directly linked to real estate market and real estate assessment

## **2.1 Base register cadastre**

One of the base registers that is essential for the real estate market, for the levying of property tax and for the mass valuation is the Base register cadastre. The ownership situation of all parcels and apartment rights is recorded in this register. Because of the legal system in the Netherlands, the Cadastre gives complete information on the ownership of all properties. Therefore, the Base register cadastre is the most important source of information to set up the list of properties to be assessed (tax list).

In addition, the market data (sale price), in case of a sale, is also included in this Base register cadastre. Therefore, the Cadastre is also an important source of market data. Despite of the fact that sales prices registered in the Base register cadastre are also used to levy a transfer tax in the Netherlands the officially registered sales prices really correspond to the prices paid. This is because in the Netherlands most people buying a house use a (nearly) 100% mortgage to pay for the house.

The information on ownership and also on the price paid is not only available for governmental purposes. Also, individuals and private firms can obtain the data, but they have to pay for this data. The availability of this data for private firms helps to make this information easily available for instance in Apps for mobile devices.

## **2.2 Base register of addresses and buildings**

Another base register that is of great importance for the transparency of the real estate market and the annual valuation of all real estate properties is the Base register of addresses and buildings. The 344 municipalities are formally responsible to keep this registration up-to-date.

The Base register of addresses and buildings contains all real estate objects in the Netherlands, and it also contains some (basic) characteristics about those properties. As shown in the following figure the Base register of addresses and buildings contains the building year and the size (in square meters usable floor area) of all properties. This information is freely available as open data. It is obvious that these characteristics are meaningful to use in valuation model, but for an accurate appraisal of a property more object characteristics are needed.

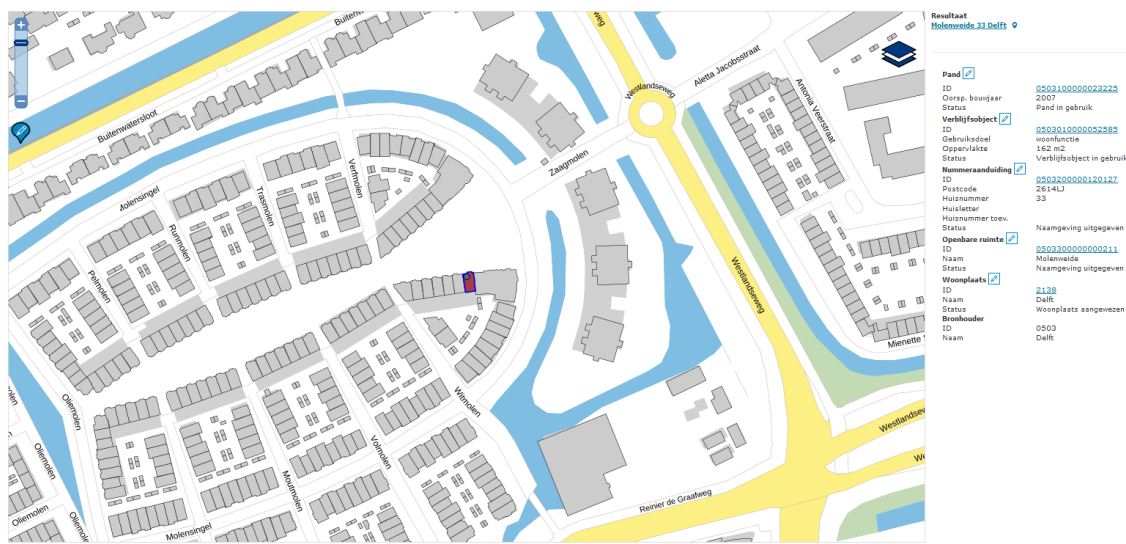


Figure 6: Base register of addresses and buildings

Because of the fact that the data in the Base register of buildings and addresses is available as open data makes it also possible for individuals to use the data for instance on the size of the property when they are looking around in the real estate market.

## 2.3 Base register of values

The third base register that plays an important role in the context of the transparency of the real estate market in the Netherlands and the transparency of the property tax system, is the Base register of values. This base register contains all assessed values of all approximately eight million residential properties in the Netherlands and the one million other properties.

This information on the value of residential property is freely available, but not as an open data source. The following figure shows the central website on which everyone in the Netherlands can see the assessed values of all properties. On this site the information from the Base register of values is combined with (the open) data from the Base register Cadastre and with data from the Base register of buildings and addresses.

Creating this website was primarily aiming for creating transparency to the taxpayer when checking the new assessed value for his property at the beginning of the year. We now see that this site is used by the public all year round. So, this show that individuals are also using this website when they are interested in investigating the property market when they are preparing buying a new house.

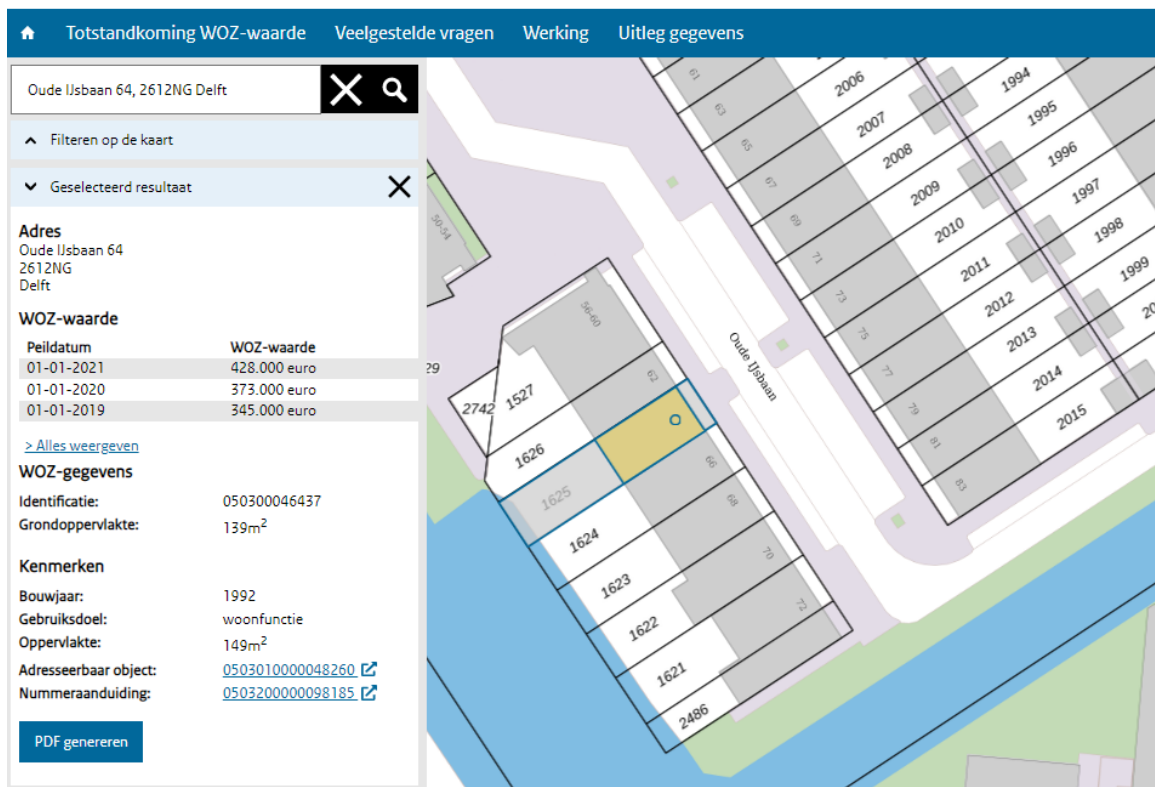


Figure 7: Site with assessed values of residential real estate

### 3. TRANSPARENCY OF THE REAL ESTATE MARKET

To analyse whether a real estate market is transparent we have to look at:

- the information about transactions like the number of transactions, information about properties sold and sale prices.
- the information about properties on the market like asking price, condition of the property, period on the market.

- other kinds of market information like rent prices, building costs and other investments etc.

### **3.1 Transparency of transactions and sales prices**

For the transparency of transaction in the Netherlands we have the combination of:

- the Base register Cadastre with all transactions and sales prices of alle kinds of properties which data can be obtained by individuals and private firms for a (small) price per property sold with easily accessible tools.
- the Base register buildings and addresses that give information on the size and building year of all properties in the Netherlands as open data and also easily accessible for individuals as well as for private firms and government organisations.
- the Base register of Values with the assessed values of all residential properties. These assessments are at most two years old because of the annual assessments and the fact that these assessments use a valuation date one year prior to the year in which the assessed values are used.

Based on these sources of data the Netherlands property market is transparent for professionals like real estate agents and valuers as well as for individuals.

### **3.2 Transparency of properties on the market and asking prices**

Besides the selling prices in the Base register Cadastre and the available basic object characteristics in the Base register of buildings and addresses there is another important source of information that contributes to the transparency of the real estate market. This is not a register organized by government regulations or by a government organization.

In the Netherlands there is one central website on the internet with all real estate adds on it. This central real estate listing site is important for professional users as well as for individuals that are interested in buying. Funda is a private website which was originally set up by the biggest brokers organization. If you want to purchase a house in the Netherlands, the first thing you do is to consult Funda. Despite of the fact that it was started by one organization of real estate agents, this site is now used by all agents in the Netherlands and even by individuals who want to sell their property without the services of a real estate agent.



Funda not only shows the asking price of a property that is on the market, but also contains other information like a number of pictures from the "inside" of a property and different object characteristics.

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Warsaw, Poland, 11–15 September 2022

The screenshot shows a real estate listing on the Funda website. At the top, there is a navigation bar with the Funda logo and options for 'Kopen', 'Huren', and 'Verkopen'. The breadcrumb trail indicates the location: Home > Putten > Putten-Centrum > Harderwijkerstraat 15. The main visual area contains a large photo of a semi-detached house, a video player with a play button, and three smaller photos showing different views of the property. Below the images, there are icons for 'foto's 51', 'Plettegond 3', '360° foto's 13', and 'Video'. A 'Bewaren' button is also visible.

The listing details include:

- Harderwijkerstraat 15**
- 3881 ED Putten Putten-Centrum
- 119 m<sup>2</sup> wonen, 1.069 m<sup>2</sup> perceel, 3 slaapkamers
- € 769.000 k.k. (kosten koper)
- Wet worden mijn maandlasten?

The description (Omschrijving) states: "Semi-bungalow in hartje centrum! Op een prachtige locatie, op steenworp afstand van het centrum met alle wenselijke voorzieningen, staat deze goed onderhouden vrijstaande semi-bungalow met ruime oprit, garage, berging en carport gestueerd op een fraai aangelegd perceel van maar liefst 1069m<sup>2</sup>. Wat naast de vriendelijke en frisse uitstraling direct opvalt is de verhoogde ligging van de woning ten opzichte van het straatniveau waardoor u vanuit de diverse verblijfsruimten een heerlijk..."

Key features (Kenmerken) include:

- Overdracht
- Vraagprijs: € 769.000 kosten koper Hypotheekadvies
- Vraagprijs per m<sup>2</sup>: € 6.462
- Aangeboden sinds: 2 weken

Contact information for Boerstaete Makelaardij is provided, including availability (Maandag bereikbaar vanaf 8:30) and options to contact the agent, plan a viewing, or request a brochure. A 'cool blue' logo is also visible at the bottom right.

Figure 8: Example of advertisement on Funda

The way the information is presented on Funda is designed for use by individuals that are searching for properties that meet their demands and that can be interesting for buying. To use the information that is presented on Funda more systematic and efficiently for valuation and taxation purposes, municipalities developed a tool to derive this information from this

website. This tool is called iWOZ. Municipalities use the data from Funda primarily to check if the registered object characteristics are right. They can of course also look at the asking price in order to see if the assessed value is in line with this price.

**iWOZ®** Woningen Bedrijven Parkeren Agrarisch Bouwgrond Recreatie Mijn iWoz

**Nachtegalstraat 118**  
**1021GE Amsterdam**

Buurt: IJplein/Vogelbuurt  
Wijk: Stadsdeel Noord  
Gemeente: Amsterdam  
Provincie: Noord-Holland

iWOZnr: 1348072 € 189.000 k.k.

Beoordeling: ★★★★★ 3.4  
Looptijd: 82 d / 125 d  
Meterprijs: € 3.436 / € 3.090

Kenmerken	Omschrijving	Foto's	Prijsinfo	Plattegronden
<a href="#">Terug naar zoekresultaten</a> <a href="#">Vorige</a> <a href="#">Volgende</a>				
<b>Aanbieder</b>				
Makelaar	123makelaar o.z.			
Aanbieder				
<b>Aanbieding</b>				
Meterprijs (Vraagprijs / m2)	€ 3.436			
Kuubprijs (Vraagprijs / m3)	€ 1.400			
<b>Oppervlakte en inhoud</b>				
Kadastraal	N.v.t.			

**Geselecteerde objecten**

- Tak van Poortvlietstraat 47 B I**  
3038 NW Rotterdam  
Noord - Bergpolder  
€ 164.500 k.k. € 1.567 / 105 m2
- Nachtegalstraat 133**  
1021 EZ Amsterdam  
Stadsdeel Amsterdam-Noord - IJplein ...  
€ 285.000 k.k. € 2.938 / 97 m2
- Nachtegalstraat 118**  
1021 GE Amsterdam  
Stadsdeel Noord - IJplein/Vogelbuurt  
€ 189.000 k.k. € 3.436 / 55 m2
- Oranjelaan 77 -79**  
7431 AB Diepenveen  
Diepenveen - Dorp Diepenveen  
€ 395.000 k.k. undefi / m2
- Statensingel 61 B**  
3030 LD Rotterdam

Figure 9: iWOZ

### **3.3 Transparency of other data on real estate market**

For instance, for commercial real estate like office space and shops we do not only have to look at the market for sales transactions, but also rental transactions are very important. In the Netherlands the data on rental transactions is much less transparent than on sales transactions. There is no official registration of rental transactions and for that reason there is also not an organized source of data on these transactions.

So private valuers as well as the municipalities for the assessment of real estate have to collect market data on rental transactions themselves. For instance, municipalities collect these data by asking owners of properties for rental contracts etc. The municipalities can use the obtained rental prices and other information on the contracts for the formal assessment. But the municipalities are not allowed to share these collected data with other organizations because of privacy regulations.

## **4. TRANSPARENCY OF THE PROPERTY TAX**

### **4.1 Property taxes in the Netherlands in numbers**

In 2021, approximately 11.3 billion euro has been levied in real estate taxes.

As stated in the introduction in the Netherlands there are different layers of government that can levy a kind of property tax. For all these different kinds of property tax the same assessed values are used. The table below lists the approximate levied taxes for 2017 to 2021 sorted by type of tax and level of government. The municipal property tax and the property tax by polder boards are general decentralized systems of property tax for which the municipality and the polder board send out tax bills based on the assessed value and the rate set by the board of the

Table 1: Levied taxes, based on the assessed value (all amounts are in millions)

	2017	2018	2019	2020	2021
Municipal property tax	€ 3800	€ 3950	€ 4100	€ 4300	€ 4560
Property tax polder boards	€ 675	€ 725	€ 730	€ 770	€ 800
Assessed value as a part of the income tax	€ 2650	€ 2650	€ 2750	€ 2650	€ 2700
Assessed value as a part of the wealth tax	€ 1000	€ 1000	€ 1000	€ 1000	€ 1000
Assessed value as a part of the inheritance tax	€ 650	€ 650	€ 650	€ 650	€ 650
Landlord tax	€ 1700	€ 1700	€ 1760	€ 1640	€ 1620
Total	€ 10474	€ 10675	€ 10990	€ 11010	€ 11330

## 4.2 The valuation process in The Netherlands

The different property taxes are based on one uniform assessed value. The Special Act for Real Estate Assessment (in Dutch: Wet WOZ) is the formal regulations for this annual assessment. The assessments are made by municipalities and are used by different layers of government. The Special Act for Real Estate Assessment aims to realize the following purposes: efficiency, transparency, quality and uniformity. Initially in 1995 the Special Act for Real Estate Assessment determined that all municipalities had to assess the value of all real estate properties every four years and that it was mandatory for other government organizations to use these assessed values for their taxation purposes. As of 2007, an annual appraisal has been introduced. This annual appraisal and assessment is done with the value reference date set one year prior to the year of use. The aim of annual revaluation was that an assessed value that was close the actual market value of today is easier to understand and therefore more transparent for the taxpayer.

Since 2009 the Registration of assessed values is part of the System of base registers and from that moment the assessed values became of use for different governmental purposes. For all regulations where the value of real estate was important the same assessed value would be used. Using the assessment for different purposes was not only more efficient for government, but also clearer to taxpayer and more transparent.

Since 2017 the assessed values for residential properties became visible on the public site on the internet. Since then, the assessed values were used for governmental uses as well as for private uses. By presenting the assessed values online they become part of the transparency of the real estate market. This close connection between real estate market and assessed values improved the transparency of the real estate market as well as the transparency of the property tax.

#### **4.3 The Netherlands Council for Real Estate Assessment**

The Council for Real Estate Assessment is an independent government organization that supervises and monitors the quality of real estate property assessment. Transparency and quality are related, because both characteristics are aiming to improve trust of taxpayers in the property tax system.

If municipalities do not meet the minimum quality standards as set by the council, it is the municipal council, which will be held accountable. The Netherlands Council for Real Estate Assessment wants to improve the trust in the execution of the Special Act for Real Estate Assessment, among other goals, by:

- Promoting that the object characteristics used for the assessment of real estate will be building blocks within the coherent governmental registration of real estate. This registration will be more detailed than the Base register of buildings and addresses and will also including 3D information on buildings.
- Realize that the municipalities, as a part of the valuation process, are making use of available data (open data), in particular with regard to location of properties. The use of these data in mass appraisal models is becoming more feasible because of AI-techniques (Artificial Intelligence) and other more modern techniques for calibrating valuation models.
- Being transparent on the results of the quality audits the council has performed at the different municipalities. For that reason, the Council for Real Estate Assessment gives a star ranking for each municipality on its internet site.



Figure 10: Example of star ranking municipalities by the Council for Real Estate Assessment

#### 4.4 Modernized valuation report

As a part of the municipal valuation process, taxpayers in the Netherlands have the opportunity to look into an individual valuation report that explains the assessed value of their property. Also this valuation report is an important element in making the property tax more transparent. This report shows which information is used to assess the value of the property.

We believe that individual valuation reports can play an important role to make the real estate market even more transparent to the taxpayer and to show that the assessed value really is in accordance with market value. So the transparency created with the valuation report also tries to increase the trust of taxpayers.

That's why we started with a project to modernize the existing valuation report that has been used since 1997 and that was considered to be a bit outdated. The result of this development is a new modern valuation report (see below), with more graphical data, pictures and maps. It is of course essential that this report can be generated automatically by municipalities, because of

the fact each year eight million of this valuation reports for residential property must be generated.. The modernized valuation report of residential properties contains information about:

- the address of a property
- primary (measurable) object characteristics like:
  - building year
  - size
  - annexes
- secondary object characteristics like:
  - the quality of a property
  - the maintenance level
- market data
  - five recent selling prices of comparable houses
- the relationship with other assessed values
- environmental characteristics

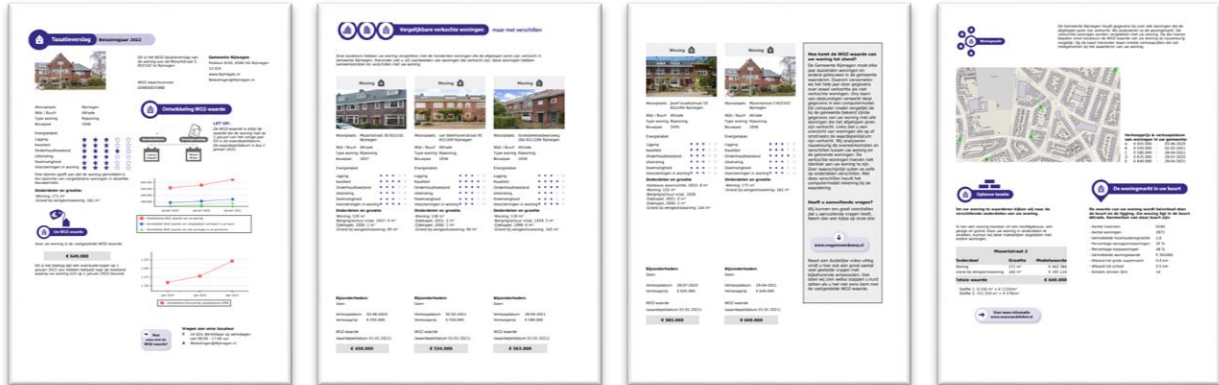


Figure 11: Modernized valuation report of residential properties



## **5. CHARACTERISTICS OF A TRUSTWORTHY PROPERTY TAX SYSTEM**

In its mission statement the Netherlands Council for Real Estate Assessment says its primary mission is to establish trust in the assessed values. The most important requirement for a trustworthy property tax system is the quality of data and the quality of the assessments. But for gaining and holding trust it is also essential to be transparent about the data.

This transparency about data includes information on property characteristics including location characteristics and information on the real estate market. So, establishing a transparent property tax system is not an isolated project but must be part of a broader incentive to be transparent about geo-information in general and to have a transparent real estate market.

From the experiences in the Netherlands, we have learned that to judge the transparency and trustworthiness of a property tax system it is important to look at the quality and availability of data about:

- location characteristics as part of spatial information.
- object characteristics as part of building information including (3D) mapping.
- market data about transactions that have taken place.
- market data about properties on the market.

As shown in this paper the property tax system in the Netherlands meets a lot of these criteria on quality and availability. However, a system should be improved continuously to hold the trust of taxpayers.

This continuous improvement is now primarily focusing on the more detailed general information on buildings, 3D mapping of buildings and defining object characteristics that are of use for assessment as well as for improving sustainability of buildings and energy transformation.

From the point of view of a transparent property tax system also the availability of market data on transactions could be better. To explain assessment based on market data it would be very useful to have sales prices as well as rental prices for commercial real estate available as open data. However, on this moment privacy issues limit the level of openness for this kind of market data

## 6 CONCLUDING REMARKS

- A transparent real estate market has many benefits for a country. To reach this transparency:
  - sales prices must be reliable, complete and easily accessible
  - properties on the market, including asking prices must be easily accessible
  - market data also includes other transactions like rental prices for commercial real estate
- Transparency of the real estate market is also essential for a value-based property tax system:
  - market analysis and mass appraisal techniques can be based on it
  - public and private valuers have a level playing field
  - taxpayers have a better sense of market value
- In the Netherlands the real estate market for residential property is pretty transparent
  - public element with a highly developed system of base registers, with publicly available:
    - market data (sales prices)
    - object characteristics (size and building year)
    - assessed values
  - private element with central digital marketplace for real estate listings
- The future will bring:
  - more transparency (availability of data) thanks to using new techniques of extracting data from for instance aerial photos and satellite images
  - embracing new techniques for data analytics, market analysis and valuation models
  - machine learning techniques as part of the tool set for geospatial data in combination with sales prices and not as a replacement for the appraisal experts working for property taxations and other filed of real estate valuation.

## 7 Contact information

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