# **IIIIIPSE Studies**

# **Cost efficiency Wmo**

Factsheet 1 Household assistance



### Jos Blank and Alex van Heezik

Institute for Public Sector Efficiency Studies Foundation

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### Introduction

This fact sheet presents the results of an analysis of the cost efficiency of municipal household assistance services under the Social Support Act (Wmo). The Wmo focuses on supporting people who are not sufficiently self-reliant or unable to participate. Household assistance support consists of taking care of household (cleaning) tasks, such as vacuuming, mopping and changing beds

The implementation of household assistance is not provided by the municipalities themselves, but purchasingd from private care providers. How this purchasing is organised can affect cost efficiency. Therefore, estimating the effects of different purchasing characteristics on efficiency is part of the study.

The fact sheet *Household assistance* is part of a four-part series on the cost-efficiency of Social Support Act (Wmo) services provided by municipalities. The other published factsheets on the Wmo categories are:

- Support at home;
- Aids and services;
- · Accommodation and shelter.

# What is cost efficiency?

Here we talk about (cost) efficiency, but in fact we are talking about productivity: the ratio between performance delivered and the use of resources. When we compare performances between organisations, we speak of cost efficiency. If the efficiency of an organisation - in this case a municipality - is 100%, it means that there is no other municipality that delivers the same performance at a lower use of resources .

Suppose municipality X has an efficiency of 60%, then there is another municipality that achieves the same performance at only 60% of the resources that municipality X deploys. Thus, municipality X has a potential cost-saving margin of 40%cost. Since we are only conducting a cross-sectional analysis here, the concepts of productivity and efficiency coincide.

### How do we determine cost efficiency?

### **Econometric model**

We determine the cost efficiency of service provision using an econometric model (see annex). This model describes the relationship between municipalities' costs of providing household assistance services, on the one hand and environmental factors and purchasing characteristics, on the other. As this relationship is partly determined by the size of a municipality, we perform the analyses on four different size classes of municipalities; we denote these by size class I (small municipalities) to IV (large municipalities). Details can be found in the appendix.

# **Purchasing features**

With the inclusion of purchasing characteristics, this model provides insight into the impact of how healthcare providers procure services on cost efficiency. Municipalities procure these services through various forms of outsourcing and procedures that vary in form of contract, method of payment, contract duration, degree of cooperation, and so on. These different purchasing characteristics can all affect cost efficiency.

#### What data do we use?

We measure the costs of service provision using the data available on this subject from Statistics Netherlands (CBS) and the *Waarstaatjegemeente* data platform. As a measure of performance, we use the number of clients using the services or facilities.

We also use personal characteristics of the clients, such as the share of clients with a non-western migration background, the share of over-60s and the share of clients with an income below 30,000 euros per year. These data were also collected from the mentioned data sources. Data on the purchasing of social support are from the *Monitor Gemeentelijke Inkoop Sociaal Domijn* (Ketenbureau/PPRC).

A thorough screening was performed on these data for their accuracy and completeness. After filtering out municipalities with missing values, of the 344 municipalities, 262 eventually remain on which a responsible analysis is possible. For an overview of the characteristics and an explanation of them, we refer to the annex.

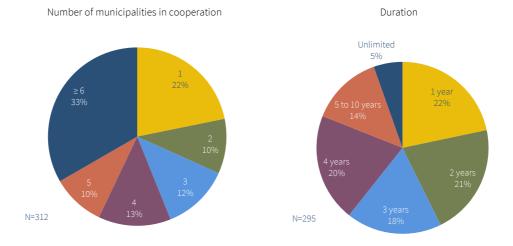
It should be taken into account that many more observations are almost always available for individual variables. For the single descriptions, in principle, all valid observations were taken as a starting point.

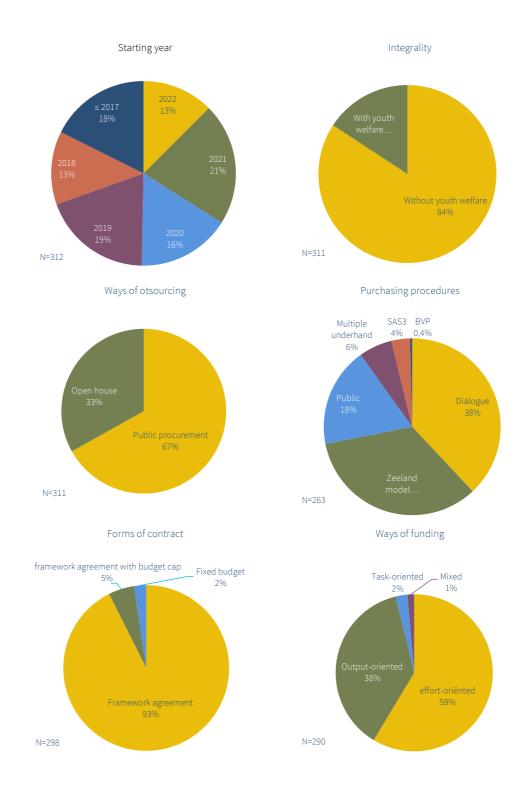
# **Description of purchasing characteristics**

At first, we present a picture of purchasing using eight pie charts, one for each purchasing attribute. Figure 1 shows, based on the data in the Chain Office/PPRC source file, the choices made by municipalities within such a purchasing characteristic.

In addition to these characteristics, we added another characteristic in the analyses that reflects the municipality's effort to manage the purchasing: the overhead ratio. This is the ratio of implementation costs to programme costs (also called purchasing costs). It ranges from a few percent to tens of percents.

Figure 1 Municipalities' choices when procuring household assistance by purchasing characteristic in 2022





# **Cost efficiency results**

### **Scale effects**

The analysis shows that costs are obviously mainly related to the number of clients. The cost per client does not appear to be related to the size of the municipality. As municipalities get larger, the cost per unit of service provision remains constant. So there are no economies of scale here

#### Characteristics of clients

It also shows that costs are negatively related to the share of clients with non-western immigration background and to the share of clients over-60. This implies that unit costs are lower on average for these groups of clients

The effect of the share of low-income households on unit service costs is twofold. In three of the four municipal size classes, the effect is positive; in municipal size class III (25,000-70,000 inhabitants), the effect is negative.

### **Purchasing effects**

Table 1 summarises the estimated purchasing effects. Each cell shows whether the respective characteristic has a positive or negative effect on cost efficiency. If the effect is statistically significant at the 10 % level, the plus or minus sign is shown in a green cell.

Table 1Effects of purchasing characteristics on cost efficiency

Purchasing reference	Size class I	Size class II	Size class III	Size class IV
Number of cooperating municipalities	-	+	+	+
Duration of contract	-	+	+	+
Elapsed years in contract	+	+	-	-
Instrument: open house= 1	-	-	-	-
Procedure: dialogue= 1	-	-	+	+
Procedure: Zeeuws= 1	-	-	+	+
Contract: framework agreement= 1	-	-	-	-
Funding: production-oriented= 1	+	+	+	+
Integrality with youth care: yes= 1	+	+	-	+
Overhead ratio	-	-	-	-

Table 1 shows that the effect of four purchasing characteristics point in the same direction for each municipal size class . Moreover, for two of them, the effect is significant for each size class. A high overhead ratio has a significant negative effect on cost efficiency for all four municipal size classes. Production-based funding shows a significant positive effect on cost efficiency in all classes. Three purchasing characteristics have a positive effect on cost efficiency in three of four municipal size categories: the number of cooperating municipalities, the duration of the contract and integrated tendering with youth care. However, these are effects with a large margin of uncertainty. The other instruments present an ambivalent picture.

### Scope of purchasing effects: cost efficiency related to purchasing

Figure 2 shows the efficiency scores of 262 municipalities. These scores were calculated based on purchasing characteristics.

Figure 2 Cost efficiency municipalities related to purchasing, household assistance (N= 262)



Figure 2 shows that efficiency varies from 48% to 100%. This means that there are municipalities that can achieve the same performance with only 48% of current resources. The average of the efficiency scores is just under 84%. This implies that a municipality can deliver the same performance at an average of 16% lower cost.

Figure 3 shows the efficiency scores of the 262 municipalities as a histogram, allowing a better understanding of the distribution of cost efficiency scores.

Figure 3 Histogram of cost efficiency municipalities related to purchasing, household assistance (N= 262)

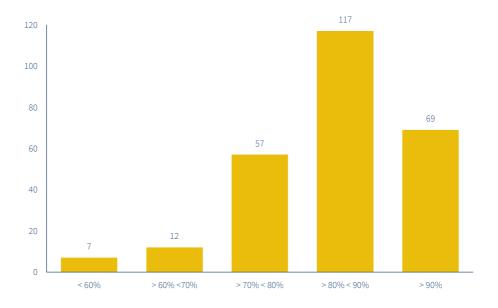


Figure 3 shows that many municipalities score well below the 84% average. Of the 262 municipalities, 76 have an efficiency score below 80%. Cost savings seem possible for these municipalities, especially for the 19 municipalities with a score below 70%.

As indicated earlier, statistically, we face margins of uncertainty. The previous results can therefore also be formulated a little more precisely. For 87% of the municipalities, they can improve their cost efficiency in the purchasing process with a certainty of more than 90%.

### The effect of unknown factors: cost efficiency not related to purchasing

Another estimate of cost efficiency that cannot be related to purchasing characteristics was also made. This so-called unobservable cost efficiency is shown in Figure 4, which shows that the scores vary from 41 to 100%. The average of these efficiency scores is 86%.

Figure 4 Unobservable cost efficiency municipalities in household assistance (N= 262)

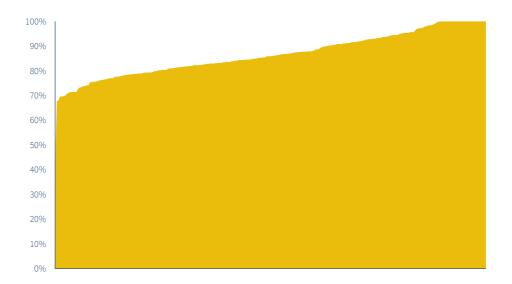
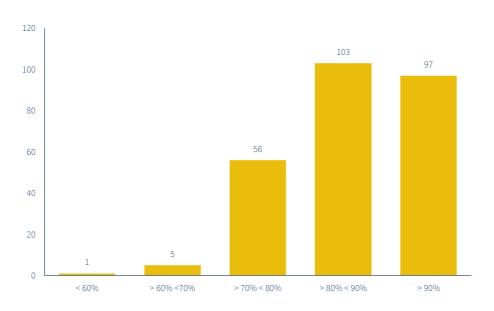


Figure 5 shows the scores as a histogram.

Figure 5 Histogram of unobservable efficiency municipalities in household assistance (N=262)



The figures show that even in the case of unobservable cost efficiency, there are still quite large differences. This probably mainly concerns municipalities' purchasing power versus the market power

of healthcare providers' or administrative relations within a cooperation or joint arrangement. One hypothesis is that different geographical markets may still have different market relations. However, additional analysis looking at the influence of different parts of the country, shows that this hypothesis is rejected. It is also quite conceivable that one individual municipality is 'simply' better at the negotiation process than another.

It is important to note that because of the lack of a direct link to aspects of business operations, these figures may also be contaminated by other causes, such as recording errors or accounting corrections and the like. Nevertheless, it is useful to show these figures, as they can be an impulse for further exploration of possible improvements

# Summary of the results

#### Scale effects and client characteristics

- The cost per client is not related to the size of a municipality. There are therefore no economies of scale in the case of household assistance.
- Costs correlate negatively with the share of clients with non-western immigration background and with the share of people aged 60 and over. This means that the unit costs of household assistance are lower on average for these groups of clients.
- The effect of the share of low-income clients on costs is ambivalent: positive in most municipal size classes, negative in municipalities with between 25,000 and 70,000 inhabitants

### **Purchasing effects**

- Only a limited proportion of purchasing characteristics have a significant impact on cost efficiency.
- Overhead ratio is the most significant characteristic that has a negative impact.
- Production funding has the most significant positive effect on cost efficiency.
- Framework agreements and the *open house* instrument have a negative impact on cost efficiency in every municipal size class, but is not significant in half of the size classes.
- The number of cooperating municipalities, duration of the contract and integrated purchasing with youth care has a positive effect on cost efficiency in three of the four municipal size classes, but it is not significant.

# Efficiency differences related to purchasing

- Cost efficiency scores vary from 48 to 100%, with an average of 84%.
- A significant proportion of the municipalities scored below average, indicating possibilities for cost savings without a negative impact on performance.
- 87% of the municipalities can, with a certainty of more than 90%, improve cost efficiency by optimising the purchasing process.

### Efficiency differences not related to purchasing

- Non-purchasing-related cost efficiency vary between 41% and 100%, with an average of 86%.
- Differences in unobservable efficiency between municipalities may be related to differences in bargaining skills and market power between healthcare providers and municipalities.

# Intervision

The results of this study could help municipalities to look at comparable municipalities (*peers*) and gain insight into opportunities to increase efficiency through intermunicipal learning exchange. Which *peers* these are, how they score on cost efficiency and how this is influenced by different purchasing characteristics can be determined for a large number of municipalities on the basis of the research results. The results can be made available upon request.

# **Appendix**

## **Background**

The municipal tasks in the field of social support are outlined in the Social Support Act (Official Gazette, 2014), which has entered into force in 2015. The main purpose of the Social Support Act 2015 is to set (new) rules for municipal support to people who are insufficiently self-reliant or unable to participate, especially people with a disability or chronic psychological problems. The aim is to let them live in their own environment for as long as possible. Municipalities must also provide facilities for sheltered housing and arrange social care for people who have left their home situation, for example because of domestic violence.

The Wmo leaves the municipalities relatively free in how they shape their social support (Ter Haar, 2024). However, this policy freedom is limited by budgetary constraints. Many municipalities are facing deficits due to inadequate state budgets (SCP, 2022). Partly in response to these deficits, the Ministry of Health, Welfare and Sport and the VNG launched a joint research project into the long-term sustainability of the Wmo 2015 (House of Commons, 2024).

Financial problems vary across municipalities. This may be related to specific socio-economic and demographic conditions, but also to differences in efficiency. Some municipalities perform their tasks more efficiently and thus keep costs under better control. Research on youth care shows that there are large cost efficiency differences between municipalities (Blank, Heezik & Valdmanis, 2023). This suggests that it is possible for some municipalities to substantially increase efficiency, creating room to reduce financial deficits.

As the same may be true for municipalities' Wmo tasks, it was decided to analyse the cost efficiency of municipal implementation of the Wmo, this is a follow-up to the youth welfare study. The method used is in line with the approach of the youth care study, but has been adapted in some parts. We describe this below.

# Methodology

To calculate cost efficiency, we use a cost model. A cost model reflects the mathematical relationship between costs on the one hand and the services provided and environmental factors on the other (Blank & Valdmanis, 2019; Fried et al., 2008). In addition, the model includes a component that reflects cost efficiency. This involves the difference in costs between the best-practice municipalities and theother municipalities. We also find this approach in several other studies (Alvarez et al., 2006; Blank, Heezik & Blank, 2023; Niaounakis & Blank, 2017). To the mathematical equation incorporating the different components, we also add a stochastic term for specification and measurement errors. The usual prices for deployed resources are omitted here, as we only have cross-sectional data and assume that municipalities face the same wages and prices. The relationship to be estimated is as follows:

$$\ln(c) = a_0 + \sum_m b_m \ln(y_m) + \sum_k d_k \ln(z_k) + eff + err \tag{1}$$
 In which:

c = cost;

 $y_m$  = production of service m;

 $z_k$  = Percentage of different costs due to environmental factors;

eff = Percentage of additional costs due to inefficiency;

*err* = specification and measurement error.

 $a_0$ ,  $b_m$ ,  $d_k$  are the parameters of the model to be estimated. The parameter  $a_0$  is the constant. The parameters are elasticities and reflect the effect of production growth on cost growth.

$$eff = \exp[-\sum_{l} \theta_{l} \ln(u_{l})] \tag{2}$$

In which:

 $u_I$  = purchasing attribute of a municipality;

 $\theta_I$  = parameters to be estimated.

We use a method that produces separate estimates for each cluster of similar municipalities. Thus, large cities like Amsterdam and Utrecht, for example, play no role in the estimate for a small municipality like Roozendaal (Gld). We distinguish a limited number of clusters based on municipality size

The advantages of this method are:

- We can suffice with a simple specification.
- · Results are much more accurate than those from one analysis of all municipalities at the same time.

Testing for model reliability:

- common tests, such as R<sup>2</sup>, t-tests et cetera;
- A skewness test answers the question of whether there is further (unobserved) inefficiency;
- different sets of output, environment and efficiency indicators have been applied.

We thereby deviate from previously conducted studies (Blank & Heezik, 2023; Blank, Heezik & Valdmanis, 2023), where we used *locally weighted least squares*. In those studies, we included the degree of similarity in weighting the estimates. The disadvantage of this method is that it results in a bower of outcomes, which actually call for follow-up analysis. The transparency of the outcomes presented here is much greater.

# **Purchasing features**

Using equation 2, we calculate the cost efficiency of household assistance related to purchasing characteristics. A large part of municipal costs for WMO implementation consists of spending on (private) social support providers. When procuring these services, municipalities make a variety of choices that may affect costs and efficiency. For instance, municipalities can apply different outsourcing types (Wind & Uenk, 2020). The three most common outsourcing types are, outsourcing through:

- Grant funding: municipalities provide financial resources to a care provider based on predefined (but limited enforceable) grant conditions.
- Open house: municipalities conclude (enforceable) agreements with all care providers that meet their conditions. Citizens choose their own care provider and there is delivery only when a citizen applies.

• Public purchasing/tendering: municipalities select a limited number of care providers based on predefined (enforceable) conditions.

Various procedures can be followed in outsourcing (Wind & Uenk, 2020), such as:

- Classic, statutory public purchasing procedure: public announcement and selection based on value for money.
- Zeeland model: the municipality sets requirements and clients choose their provider from among contracted parties.
- Dialogue-based procedure: the municipality and providers discuss conditions in dialogue sessions.

Besides these choices, when outsourcing social support, there are also choices to be made about contract forms and the method of funding. For contract forms, municipalities can choose fixed budgets (lump sum), budget ceilings and framework agreements with or without interim entry of new providers. When it comes to funding, municipalities can opt for effort-, output- or task-based funding or mixed forms. Other purchasing choices of municipalities include: buying social support integrated/not integrated with youth care services, cooperating/not cooperating with other municipalities and duration of contracts (Wind & Uenk, 2020).

The different purchasing choices create differences in purchasing characteristics between municipalities. Added to this is the characteristic 'overhead ratio' by which we measure the municipality's effort to manage purchasing. The overhead ratio is the ratio of (netted) implementation costs to programme costs (purchasing costs).

The box below presents the 10 purchasing characteristics included in the analysis model.

### Purchasing characteristics in the analysis

- 1. Cooperation: number of municipalities in partnership;
- 2. **Duration**: number of years for which the agreement applies;
- 3. Expired contract years: based on the starting year of agreement;
- **4. Outsourcing form** (type of implementation tool):
  - Open house;
  - Other (public contract or grant);

### 5. Type of purchasing procedure (A):

- 'Dialogue';
- Other procedures (mainly public procedures);

### 6. Type of purchasing procedure (B):

- 'Zeeland';
  - Other procedures (mainly public procedures);

### 7. Contract form:

- Framework agreement;
- Framework agreement with budget cap or fixed budget;

### 8. Funding form:

- Effort-oriented;
- Other (production- or task-oriented or mixed);

### 9. Integrity:

- Agreements tendered with youth services;
- Agreements not tendered with youth services.

### 10. Overhead:

- The ratio of implementation costs to programme costs

# Statistical description

Table B1 provides a statistical description of the original data as used in the statistical analysis. This does not yet include a selection of municipalities eventually included in the analysis. Only data from those municipalities for which none of the variables are missing are used for the analysis. In the case of the overhead ratio, extreme values have been capped. This concerns a limited number of municipalities

Table B1 Statistical description of all variables used in the

Variable	Observati- ons	Average	Standard deviation	Minimum	Maximum
Cost	318	5044,910	8268,932	45,762	86057,090
Number of clients	311	1610,289	2160,322	25,000	22970,000
Share of non-western immigrants	322	0,037	0,052	0,005	0,393
Share of over-60s	322	0,865	0,072	0,005	0,942
Share of low-income households	322	0,635	0,102	0,005	0,826
Number of cooperating municipalities	312	4,413	3,058	1,000	13,000
Duration of contract	344	3,331	2,075	1,000	8,000
Elapsed years in contract	312	3,801	2,196	1,000	10,000
Instrument (open house=1)	344	0,299	0,459	0,000	1,000
Procedure (dialogue=1)	344	0,291	0,455	0,000	1,000
Procedure (Zeeland=1)	344	0,259	0,439	0,000	1,000
Contract (framework agreement=1)	344	0,802	0,399	0,000	1,000
Funding (production-oriented=1)	344	0,494	0,501	0,000	1,000
Integrality with youth welfare (yes=1)	344	0,142	0,350	0,000	1,000
Overhead ratio	344	0,156	0,146	0,010	0,500

### **Estimation results**

The analyses are conducted on four different data files, distinguished by four size classes of municipalities:

- to 20,000 inhabitants (N= 51);
- 20,001-35,000 population (N=90);
- 35,001-60,000 population (N= 68);
- From 60,001 population (N= 53).

To ensure that efficiency measures of individual municipalities located in the tails of the clusters (e.g. a municipality with 19,950 inhabitants) are also based on larger municipalities, we use larger (overlapping) size classes for the regression analyses:

- to 30,000 population (N= 116);
- 15,001-40,000 population (N= 130);
- 25,001-70,000 population (N= 137);
- from 35,000 inhabitants (N= 121).

Table B2 presents the estimation results of the analyses by size class of municipalities. Values with statistical significance of 5% and 10% are indicated by \*\* and \*, respectively.

Table B2 Results summarised: parameter estimates by size class of municipalities

	< 30.000	15.001- 40.000	25.001- 70.000	> 35.000
Constant	-1,193 **	-1,180 **	-1,210 **	-1,142 **
Number of clients	1,053 **	1,059 **	1,011 **	0,986 **
Share of non-western immigrants	-0,018	-0,005	-0,019	-0,011
Share of over-60s	-1,116 **	-0,771 **	-1,586 **	-1,441 **
Share of low-income households	0,055	0,212 *	-0,091	0,084
Number of cooperating municipalities	0,005	-0,004	-0,005	-0,005
Duration of contract	0,002	-0,004	-0,009	-0,011
Elapsed years in contract	-0,004	-0,002	0,009	0,009
Instrument (open house=1)	0,031	0,016	0,061 **	0,075 **
Procedure (dialogue=1)	0,048	0,018	-0,048	-0,040
Procedure (Zeeland=1)	0,075 **	0,004	-0,027	-0,025
Contract (framework agreement=1)	0,033	0,123 **	0,123 **	0,050
Funding (production-oriented=1)	-0,050 **	-0,055 **	-0,068 **	-0,072 **
Integrality with youth welfare (yes=1)	-0,034	-0,010	0,003	-0,010
Overhead ratio	0,731 **	0,807 **	0,859 **	0,812 **
Number of observations	116	130	137	121
R-squared	0,96	0,95	0,92	0,97
Log likelihood	87,51	117,13	89,90	76,75

<sup>\*\*</sup> p< 0.05; \* p< 0.1

# Names of 262 municipalities in final analysis

Aalten	Brunssum	Gennep	Laarbeek
Achtkarspelen	Bunnik	Gilze and Rijen	Land van Cuijk
Alblasserdam	Bunschoten	Goes	Landgraaf
Albrandswaard	Buren	Goirle	Lansingerland
Alkmaar	Capelle aan den IJssel	Gorinchem	Laren
Alphen-Chaam	Castricum	Gouda	Leeuwarden
Altena	Coevorden	Groningen	Leiden
Ameland	Cranendonck	Gulpen-Wittem	Leiderdorp
Amersfoort	Dalfsen	Haaksbergen	Lelystad
Amsterdam	Dantumadiel	Haarlem	Leudal
Apeldoorn	De Bilt	Haarlemmermeer	Leusden
Arnhem	De Fryske Marren	Halderberge	Lingewaard
Assen	De Ronde Venen	Harderwijk	Lisse
Asten	De Wolden	Hardinxveld-Giessendam	Lochem
Baarle-Nassau	Delft	Hattem	Loon op Zand
Barendrecht	Den Helder	Heemskerk	Lopik
Barneveld	Deurne	Heerenveen	Losser
Beekdaelen	Deventer	Heeze-Leende	Maasdriel
Beesel	Diemen	Heiloo	Maassluis
Berg and Dal	Dike and Worth	Hellendoorn	Maastricht
Bergeijk	Dinkelland	Hellevoetsluis	Meerssen
Bergen L	Doesburg	Helmond	Meierijstad
Bergen NH	Doetinchem	Hendrik-Ido-Ambacht	Meppel
Bergen op Zoom	Dongen	Hengelo	Midden-Drenthe
Berkelland	Drimmelen	Heusden	Midden-Groningen
Bernheze	Dronten	Hillegom	Molenlanden
Beuningen	Druten	Hilvarenbeek	Montferland
Beverwijk	Ede	Hilversum	Mook en Middelaar
Bladel	Eemnes	Hoeksche Waard	Neder-Betuwe
Blaricum	Eersel	Hof van Twente	Nederweert
Bloemendaal	Eijsden-Margraten	Hollands Kroon	Nieuwegein
Boekel	Eindhoven	Hoogeveen	Nieuwkoop
Borger-Odoorn	Elburg	Horst aan de Maas	Nijkerk
Borne	Enschede	Houten	Nijmegen
Borsele	Ере	Huizen	Nissewaard
Boxtel	Ermelo	Hulst	Noord Beveland
Breda	Etten-Leur	Kampen	Noordenveld
Brielle		IZ II -	Nunspeet
	Geertruidenberg	Kapelle	Nurispeet
Bronckhorst	Geertruidenberg Geldrop-Mierlo	Katwijk	Oegstgeest

Oldambt	Someren	Westerwolde
Oldebroek	Son en Breugel	Weststellingwerf
Oldenzaal	Staphorst	Westvoorne
Olst-Wijhe	Steenbergen	Wijchen
Oost Gelre	Súdwest-Fryslân	Wijdemeren
Oosterhout	Terneuzen	Wijk bij Duurstede
Ooststellingwerf	Texel	Winterswijk
Opsterland	Teylingen	Woensdrecht
Oss	Tholen	Woerden
Oude IJsselstreek	Tiel	Woudenberg
Ouder-Amstel	Tilburg	Zaltbommel
Oudewater	Tubbergen	Zandvoort
Overbetuwe	Tynaarlo	Zeewolde
Papendrecht	Tytsjerksteradiel	Zeist
Peel en Maas	Uitgeest	Zevenaar
Pijnacker-Nootdorp	Uithoorn	Zoetermeer
Purmerend	Utrecht	Zoeterwoude
Putten	Utrechtse Heuvelrug	Zuidplas
Raalte	Vaals	Zundert
Reimerswaal	Valkenburg aan de Geul	Zutphen
Renkum	Valkenswaard	Zwartewaterland
Reusel-De Mierden	Veenendaal	Zwijndrecht
Rheden	Veere	
Ridderkerk	Veldhoven	
Rijssen-Holten	Velsen	
Roosendaal	Venlo	
Rotterdam	Venray	
Rozendaal	Vijfheerenlanden	
Rucphen	Vlaardingen	
Schagen	Vlissingen	
Scherpenzeel	Voerendaal	
Schiedam	Vught	
Schouwen-Duiveland	Waalwijk	
's-Gravenhage	Waddinxveen	
Simpelveld	Wageningen	
Sint-Michielsgestel	Weert	
Sittard-Geleen	West Betuwe	
Sliedrecht		
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Sluis	West Maas en Waal Westerkwartier	

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# Colophon

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