TRANSPARENCY OF ACCESSIBILITY TO GOVERNMENT-OWNED GEO-INFORMATION

by: Frederika Welle Donker, MSc & Bastiaan van Loenen, PhD
Delft University of Technology – OTB Research Institute for Housing, Urban & Mobility Studies

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ABSTRACT

In the Netherlands there is an imbalance between supply and use of geo-information. There is an abundance of good quality geo-information collected and maintained by government, which potentially is of use for many. However, there appears to be a mismatch between this abundant supply and, often still dormant, demand. Especially, private companies that may need this geo-information, either for the execution of their own business activities or to produce innovative value-added products, do not use it. One of the obstacles that has to be overcome is the lack of transparency of public geo-information. Not only is the geo-information difficult to find as it is scattered throughout the different government agencies, but each agency also applies different licence conditions and pricing models. As a consequence, it is time-consuming to find and obtain the right information, business processes are delayed, and the government misses out on a potential avenue to cost-recovery, among other things. The concept of the Creative Commons may be a way to promote the uniformity and transparency of the licenses for geo-information of different government agencies. This paper assesses the feasibility of the concept of the Creative Commons in the world of geo-information. Based on research carried out in the Netherlands, it provides evidence that the Creative Commons concept is a valuable contribution to the development of the geo-information infrastructure in the Netherlands. It should be considered as a serious option within INSPIRE as one concept of transparent harmonised licenses for geo-information as a key for the utilitisation of the geo-information infrastructure in Europe.

INTRODUCTION

Access to and use of public geo-information is a critical ingredient for the well-being of information societies. Within the context of geographic information infrastructures, users are probably the most mentioned group, but the least considered (McLauglin and Nichols, 1994). Concerning use requirements, users require both transparency of the information policies (see Ravi Bedrijvenplatform, 2000, p. 13) and consistency in the access policies throughout government (see STIA, 2001, pp. 8-10/13; KPMG, 2001, p. 16; Ravi Bedrijvenplatform, 2000, p. 11; Pira et al., 2000, p. 76). Differences in pricing, use restrictions, liability regimes may result in confusion and ultimately limited use of the dataset (Meixner and Frank, 1997, p. 2).

One of the barriers that has to be overcome in the Netherlands is the lack of transparency of public geo-information. In order to provide the required transparency of available geo-information, a national geo-information clearinghouse was set up in 1996. This initiative was, however, without much success. It appears that the lack of success was not caused by technical problems, but rather by a lack

of participation and commitment (Heuvel 2004). It was acknowledged that for a GII to function properly, it requires not only a framework that allows easy and transparent access from technological perspective, but also the informational, financial and legal perspectives need to be addressed. Therefore, in 2004, a new project called GeoPortal Network – Liberty United (Geoloketten – Vrijheid in Verbondenheid), partly funded by the national government, was initiated to increase the transparency. This project focuses not only on the technical aspects but also addresses the organisational and legal issues (Zevenbergen et al. 2006).

Another relevant issue is the consistency of access policies within government. Government organisations and agencies control most geo-information in the Netherlands. However, each agency has its own license provisions and adheres to its own unique pricing principles. The question rises whether it is possible to have one single access policy for all levels of government without putting the different interest of the information producers at risk.

Within the music industry, among others, the concept of the Creative Commons is regarded as a means to suit the needs of the users without endangering the exploitation interest of the information producers. The Creative Commons include licenses that provide a flexible range of protections and freedoms for authors, artists, and educators. A Creative Commons-style licence agreement could be developed to suit geo-information.

Based on research carried out in the Netherlands, this paper assesses the feasibility of the concept of the Creative Commons in the world of geo-information. First, we provide briefly the theoretical framework of access to information. Then, we provide the current situation in the Netherlands with respect to access to public geo-information. Then we discuss the concept of the Creative Commons. Finally, we discuss how the Creative Commons concept may help to improve the transparency and consistency of access policies of public geo-information in the Netherlands.

ACCESS REQUIREMENTS

According to Backx, information has to conform to certain accessibility demands. Firstly, information has to be known, i.e. one must know that the information can be obtained and where the information can be obtained. Secondly, the information must be attainable, i.e. must be able to be obtained in a physical way (CD, ftp server) and that the information is affordable. Thirdly, the information must be usable, i.e. one can actually use the information for the purpose it was obtained (Backx 2003). For the GeoPortal Network – Liberty United (GPN-LU) Project, it was decided to concentrate on the first two aspects. This paper focuses on the second aspect of attainability. If information is available for others, under what (legal and financial) conditions is it available? We use this information for the development of a transparent accessibility model for the end-user.

figure 1:Accessibility model (Backx, 2003)

OVERVIEW OF THE SITUATION IN THE NETHERLANDS

Currently, there is an imbalance between supply and use of geo-information. There is an abundance of often good quality geo-information collected and maintained by government departments and agencies. Some of the data is collected as part of compulsory registrations; other data is collected as part of their governmental mandate and used to carry out public duties. This wealth of geo-information is potentially of use for the development of value-added applications. However, legal constraints limit the Dutch government organisations to develop their own value-added geo-information applications. They can collect and maintain geo-data only as part of their core governmental mandate and are not (always) allowed to combine the data with data from other sources and make the value-added product available for re-use (Van Loenen 2005). On the other hand, there are private companies that need this geo-information, either for the execution of their own business activities or to produce innovative value-added products. Somehow, there appears to be a mismatch between this abundant supply and, often still dormant, demand. Provided that the demand and a market for geographic information does potentially exist, this mismatch may be due to a number of obstacles.

ACCESS TO GOVERNMENT INFORMATION

In January 2006 the implementation of the European Directive 2003/98/EC on the Re-use of Public Sector Information (PSI), was enacted as an additional chapter to the existing Dutch Freedom of Information Act (DFoIA) (chapter V-a of the Wet openbaarheid van bestuur). The DFoIA provides guidelines for re-use of public sector information.

Government anticipates on three categories of government information (cf. Van Loenen and Kok, 2004). The first category involves laws, jurisprudence, and policy decisions. These are excluded from copyright and the database legislation (art. 11 Dutch Copyright Act, art. 8 Dutch Database Act) and may be freely accessed through, for example, www.overheid.nl. The second group includes information subject to the DFoIA. The main objective of the Government information act is to promote the participation of citizens in the democratic process. The law provides for access to public

information. It concerns all information within government with the usual exceptions of information concerning the national security, the security of the Crown, and reasons of privacy, among others, which cannot be requested under the Government information act. The third category is public sector information with its own access regime (e.g., cadastral information accessible through the Cadastre Act). However, the special provision V-a of the DFoIA applies to re-use of the second and third category of public sector information. This provision rules that for available public sector information the answer to "May a private citizen or business acquire an entire geographic dataset produced by a Dutch government agency?" is yes. Thus entire public datasets, including those at the Cadastre, municipalities, and other public entities can be obtained through the re-use provision in the DFoIA.

Pricing models

Although generally the price charged for public information available through the DFoIA is based on the marginal cost of dissemination, this is not necessarily true for public geo-information. The new DFoIA does not require marginal cost recovery for all levels of government. It only stipulates that the total income out of supply of information should not exceed the costs of collection, production, reproduction and distribution, increased by a reasonable return on investments. Therefore, the policy line of 2000 still holds. This policy presented in the memorandum “Towards Optimal Availability of Government Information” (Van Boxtel 2000) states that all government information should be disseminated at a maximum of the cost of dissemination. Government information with its own pricing mechanisms, like cadastral information, is not subject to these guidelines. The policy also does not apply to data sets for which the policy line would result in financial problems for the supplier of the information. It was decided to allow the geographic information sector to facilitate access to geographic information prior to a formal arrangement (law). This left the geo-information community with pricing models varying from full cost recovery to datasets available for the marginal costs of dissemination.

On the one hand, some government institutes that are not dependant on direct revenue tend to move towards the latter approach. The fact that some national geo-datasets have significantly been reduced in price recently may illustrate this trend. For example, the price for the Current Elevation Dataset of the Netherlands (Actueel Hoogtebestand Nederland) has been reduced from over one million euros to 200,000 euros; other datasets are now even freely available (DINO data pertaining to the subsurface). In addition, encouraged by the Ministry of the Interior, the Provincial Councils and the Water Boards have announced to make their own geo-information available free of charge in the near future. On the other hand, government entities, such as the Cadastre, but also the municipalities and utilities adhere to cost recovery policies. As a result, there is no single and consistent pricing model applicable to public geo-information; prices range from free or marginal cost recovery to hundreds of thousands of euros. Sometimes there is a differentiation between types of users with typically lower rates for libraries, education & universities, private users or other government institutes.

Terms and conditions for governmental geo-information: Current state of licence agreements

Government agencies can claim copyright, or database right in their information. Most of them, especially if it concerns geo-information, choose to do so. Claiming intellectual property rights in the information, allows government to restrict the use further through license agreement provisions.

For the GPN-LU Project, current licence agreements of suppliers of government geo-information were reviewed (Welle Donker, 2006). Public geo-information is not always easy to access as it is scattered throughout different government agencies with each agency applying different licence agreements and pricing models. In this respect, there seems to be little cooperation between the different levels of government. Not only is it a costly process to find and obtain the needed information, are business processes delayed, citizens ill-informed, plans unbalanced and solving urgent problem a slow and cumbersome process, but the government misses out on a potential avenue to realise a reasonable return on their investments (Geoloketten Consortium 2005).

The first thing that attracts attention is the diversity in the way the licence terms and conditions are formulated. Licence agreements range from a few paragraphs in plain language that anyone can understand to reams of paper written in legal language that only lawyers can understand. Almost all government licence agreements show great similarity as far as the main provisions are concerned. They all contain the following provisions:

- The user obtains a non-exclusive user right;
- Adaptation of the information is usually allowed as long as the derivatives are clearly credited with the original source (name of supplier and year of acquisition);
- The intellectual property remains with the rightholder;
- The information may not be transferred to a third party without prior consent of the rightholder.
- The supplier of the information indemnifies themselves against any claims due to supply and / or use of the information;
- General (non-specific) financial provisions.

The licence agreements sometimes contain restrictions regarding the processing of information for commercial purposes. None of the licence agreements contain provisions for using information from more than one source, even within the same agency or institute. If a company requires geo-information from different governmental sources, separate licence agreements have to be negotiated for each separate dataset with each agency.

Typically, access to an entire dataset will be provided after permission has been granted and a licence agreement has been signed. In some cases, where agencies are responsible for collecting their own information, information subsets can be accessed. More often the information can only be purchased as a complete dataset, which puts the information out of the purchasing power of smaller companies. Some private companies elect to collect their own geo-information rather than to obtain the information from the government. This situation poses economic and social problems.

Some agencies offer subscription type of agreements where the information can be accessed on-line. In a number of licence agreements, one has to state for what purpose the information will be used. This is usually for privacy issues as these datasets contain information that relate to personal information. Companies that want to use these datasets for direct marketing are specifically excluded.

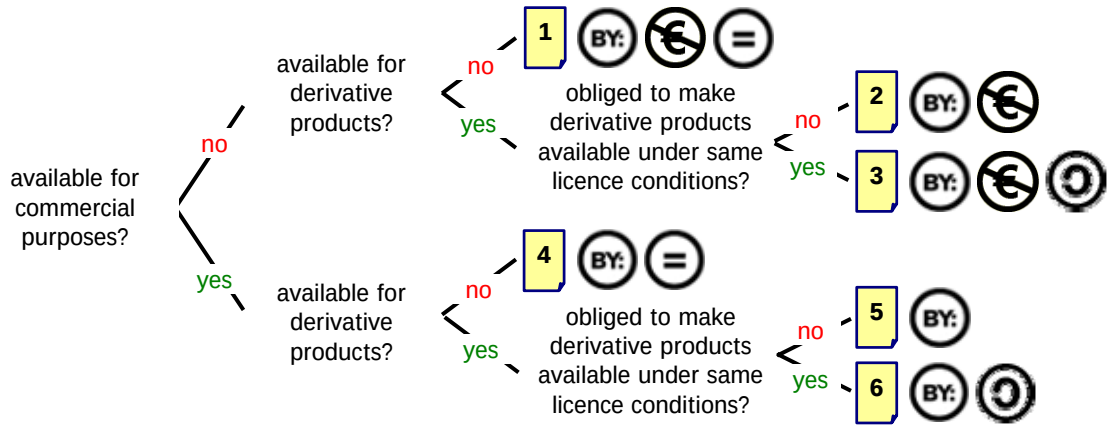
The EU Directive re-use of PSI has not changed this situation (yet) of inconsistent and not transparent use conditions and pricing models.

CREATIVE COMMONS CONCEPT

One way of improving the transparency and consistency of use conditions may be a Creative Commons (CC) approach. The Creative Commons concept was founded in 2001 in the United States. CC is a non-profit organisation that offers flexible copyright licences for creative works. Anyone can make their work available to the public without forfeiting their intellectual rights. Creative works can be accessible easily on the Internet for dissemination or for re-use. More and more countries around the world are adapting the US version of CC licences to reflect national legislation (Hendriks 2006). At the end of 2005, worldwide around 14 million websites refer to a CC licence (Hendriks 2006).

The CC license is built upon the "all rights reserved" concept of traditional copyright to offer a voluntary "some rights reserved" approach (http://creativecommons.org/). The concept has varied options, for example, through the commons copyright holders may allow others to copy, distribute, display, and perform copyrighted work - and derivative works based upon it - but only if they give credit to the copyright holder. Alternatively, they may allow using the information - and derivative works based upon it - only for non-commercial purposes. In general, CC offers six standard licences a licensor can use to make a work available to third parties (see figure 2). The six different licences are established by selecting three options:

1. The licensee may or may not use a work for commercial purposes;
2. The licensee may or may not make derivative products, and if yes;
3. The licensee is or is not obliged to make the derivative product available to third parties under the same licence agreement.



Explanation of symbols:

= **Attribution**. Others may copy, distribute, display, and perform your copyrighted work — and derivative works based upon it — but only if they give credit the way you request.

= **Non-commercial**. Others may copy, distribute, display, and perform your work — and derivative works based upon it — but for non-commercial purposes only

= **No Derivative Works**. Others may copy, distribute, display, and perform only verbatim copies of your work, not derivative works based upon it.

= **Share Alike**. Others are allowed to distribute derivative works only under a license identical to the license that governs your work.

figure 2: structure Creative Commons style licences (figure by Welle Donker)

CC has developed an easy web-based procedure to licence open access works. After answering a few questions, the CC logo will appear on the licensor's website. By clicking on the logo, the licence applicable will be displayed on screen. Each of the six potential licences generates three versions of the same agreement. The first version, a Commons Deed, in simple plain language suitable for laymen is a summary of the licence, complete with the relevant symbols as displayed in figure 2. The second version, a Legal Code, is the actual legally binding version. The Legal Code is suitable for lawyers and consists of a number of pages in legal terminology. The third version, a Digital Code, is a machine-readable translation of the license that helps search engines and other applications identify the work by its terms of use. All CC-licences contain some basic conditions such as compulsory attribution as indicated; the licence is non-revokable and the licence is issued for the duration of standard copyright.

Open access works

CC aims to promote (Internet) access to copyright protected works and can as such be regarded as a so-called open content organisation. Open access works, while copyrighted, allow use without obtaining prior permission since a general licence is granted ahead of any specific use. A basic condition of a CC-licence is that user rights are supplied without royalties. This non-commercial aspect of the licences makes them unsuitable to people who want to sell information. The licences are most suited to creators, who want to distribute their work independently to gain publicity or to build up a reputation, or creators or organisations that act out of ideological or non-profit objectives. Therefore, CC-licences are most suitable for non-profit organisations, academia, and government organisations. For instance, the BBC has recently made a digital archive of audio and video material available, the so-called Creative Archive. The licence applicable is very similar to CC-licences and was developed in corporation with Creative Commons (http://creativearchive.bbc.co.uk/).

As CC-licences are legally binding, no separate sanctioning system is required. In the Netherlands, The Institute of Information Law - University of Amsterdam developed the Dutch versions of the CC-licences for Creative Commons Nederland (CC-NL) Foundation (Groeneveld et al. 2005). A recent court case in the Netherlands illustrated that the Dutch courts uphold the legal validity of CC-licences (Curry v Audax Publishing, District Court Amsterdam, 09-03-2006).

In the Netherlands, the so-called New Map of the Netherlands (NMN) is available on-line with a CC-licence since January 2006 (see www.nieuwekaart.nl). The NMN offers a complete overview of planned spatial developments and functional changes in the Netherlands. Although a user still has to complete an on-line declaration stating for which purpose the file is to be used and to which category the user belongs, the file can then be downloaded, copied, distributed, used for derivative works and used for commercial purposes, as long as proper attribution is implemented. This is the most unrestricted version of a CC-licence and corresponds with a "type 5" licence as generated in figure 2. With regard to liability, a very general clause indemnifying all liability has been included in the licence agreement.

Assessing the CC-license

The CC-license is simple with only six options that are clearly described for all users. These six options cover the found user restrictions that apply to public geo-information in the Netherlands (see table 1). In this respect, use of the CC-concept would promote the consistency of public information policies in the Netherlands. Although the use would not change the provisions as such, only the notification that the license fall within the concept of the Creative Commons clarifies that no unexpected restrictions are imposed on the user.

Creative Commons	GI in NL	Match?
The user obtains a non-exclusive user right	The user obtains a non-exclusive user right	**Yes**
Adaptation of the information is sometimes allowed (depending on type of licence). Derivatives must be clearly attributed to the creator(s) of the original source.	Adaptation of the information is usually allowed as long as the derivatives are clearly credited with the original source (name of supplier and year of acquisition)	**Yes**
The intellectual property rights remain with the rightholder	The intellectual property rights remain with the rightholder	**Yes**
The user may transfer the information and/or derivatives to a third party without prior consent of the rightholder but only under the same licence conditions (depending on type of licence)	The information may not be transferred to a third party without prior consent of the rightholder	**No**
The information is offered on an "as-is" and "as-available" basis and without any warranty of any kind, either express or implied	The supplier of the information indemnifies themselves against any claims due to supply and / or use of the information	**Yes**
Information is only available for re-use at no upfront charges and free of royalties	Some information is available for re-use at no upfront charges or royalties. Other licence agreements contain general (non-specific) financial provisions	**No**
Licence is valid for the duration of copyright	User licence may only be valid for a fixed period only (subscription model)	**No**
"Click" licence is available and can be accepted on-line (no paper application or correspondence).	Licence can often only be obtained after signing a formal agreement	**No**
Information is accessible on-line after the licence terms have been agreed to	Information may be accessible on-line after an agreement has been signed	**Yes**

Table 1: Terms in the CC compared to the license restrictions in the Netherlands

There are a number of issues that have to be taken into account. Firstly, there is the issue of liability. CC-licences do not contain standard clauses related to liability. However, liability due to incomplete or incorrect (meta)data is an issue that has to be addressed. Research has been undertaken to address the challenges of setting up a Public Commons of Geographic Data (Onsrud et al. 2004). The goal of such a Public Commons, using open-source and open-access technology, is to remove technical and legal barriers of GIS users that wish to contribute, access and use locally generated geo-information (Onsrud et al. 2004). However, their research focuses more on the technical challenges and less on the legal challenges of liability. The question is if government can indemnify themselves against liability claims ensuing from supply of information. If a government agency collects and maintains information then resell this same information, they are in the best position themselves to verify the accuracy of their own information. Government liability can only be based on not taking enough care, such as omission of precautionary measures. It has been suggested that extent of these precautionary measures should depend on the price charged for supply of the information (Pels Rijken et al 2001).

Further, the CC concept adheres to the so-called "open source" licenses, where works are made widely and freely available for re-use at no charge. Given the mixed pricing models in the Netherlands, typically not allowing re-use at no charge, the CC concept needs to be extended in order to be fully of use for the geo-information sector. A suggested extension of the CC concept, indicating the underlying pricing principle applying to a dataset, may be as follows:

No charge is being made

Price reflects marginal cost of dissemination

Price is based on partial cost recovery

Price is based on full cost recovery

Price includes full cost recovery plus a reasonable return on investment

However, the suitability of such an extension of the Creative Commons style licences for geo-information needs to be worked out in detail.

CONCLUSION

There is a large quantity of relatively high-quality geo-information available in the Netherlands, the bulk of which belongs to government institutes. It would be very helpful if the current licence agreements of different government agencies and institutes were made uniform and simple to understand. The question raised was whether it is possible to have one single access policy for all levels of government without putting the different interest of the information producers at risk. The Creative Commons concept has been assessed to be useful to improve the transparency and consistency of licenses accompanying public sector geographic information in the Netherlands. Especially if the

concept is extended with standard pricing categories, this model may be successful. A type of licence agreement based on CC-style licences should be developed, especially for geo-datasets that are already available free of charge. The New Map of the Netherlands sets a good example in this respect. Also datasets available under cost recovery conditions may benefit from the CC-concept since it promotes transparency and consistency. Uniform and legible licence agreements would certainly help to make the whole process more transparent.

However, even if all public sector information would use the CC model including the pricing extension, the value-added use would probably still be limited. Dutch government may not engage in commercial activities such as developing value-added services outside the scope of their public duty. The same government restricts the use of its geographic information through license restrictions that make the development of derivative products based on the public information difficult. Therefore, few if any value added products are being developed, which blocks informed citizenry, which is critical in an information society. To avoid that use of geo-information is concentrated around a selected few organisations, some structural changes have to be made to the current overstrict licence agreements, to the cost of supply or to the mandate of government institutes.

One solution clearly is either allowing government to develop these products, or to allow the development of derivative products by other parties. We think it would be logical to make the abundant amount of geo-information available to the private sector. This calls for changing the current overstrict licence agreements into conditions promoting, not restricting, re-use.

However, even with more relaxed use conditions, the real obstacle is probably the prices charged for public sector geo-information. The reduction in price of some large Dutch geo-datasets illustrates the fact that even the public geo-information sector government is starting to realise this. Even then, the prices remain too high for smaller private sector companies to even consider. These financial barriers may be resolved with agreements that have provisions for royalties to be paid after value-added products and services have been developed instead of the current policy of selling complete datasets (Van Loenen 2006).

Only if the overstrict use conditions and financial issues have been resolved value-added use is expected to thrive. Until that very moment, the introduction of the Creative Commons concept in the world of geo-information may help to increase the transparency and consistency of license agreements.

In this way, the concept is a valuable, though little, contribution to the development of the geo-information infrastructure in the Netherlands. Therefore, it should be considered as a serious option within INSPIRE as one concept of transparent harmonised licenses for geo-information as a key for the utilitisation of the geo-information infrastructure in Europe.

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ABBREVIATIONS:

CC	Creative Commons
CC-NL	Creative Commons Nederland

DFoIA	Dutch Freedom of Information Act (Wet openbaarheid van bestuur 1991)
DINO	Data and Information of the Subsurface of the Netherlands (Data en Informatie Nederlandse Ondergrond)
GBKN	Large Scale Basic Map of the Netherlands Grootschalige BasisKaart Nederland)
GPN-LU	GeoPortal Network – Liberty United (Geoloketten – Vrijheid in Verbondenheid)
NMN	New Map of the Netherlands (Nieuwe Kaart van Nederland)
PSI	Public Sector Information

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