

Ontario Digital Cadastral Database Feasibility Study

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Introduction

The **Feasibility Study for the Development of an Ontario Digital Cadastral Database (ODCD)** arose from a motion passed by the membership at the 2010 Annual General Meeting (AGM) of the Association of Ontario Land Surveyors (AOLS). The objectives of the study were to:

- identify the market demand for a high quality digital cadastral database
- evaluate alternative locations for the creation of a high quality digital cadastral database
- assess the resource requirements and costs of such an endeavour
- assess the benefits and income generation potential of such an endeavour
- assess the risks of creating a high quality digital cadastral database

The rationale for AOLS sponsorship of this feasibility study was twofold. Firstly, the Association was responding to the interest of its members in contributing to the development of a higher quality digital cadastral database for the province. Secondly, and as importantly, the AOLS believed that such an initiative will produce many benefits that will enhance its role in serving the public interest.

Market Assessment

A Market Assessment was conducted, which identified the composition and approximate sizes of ten market segments that make use of digital cadastral data. The primary uses of and benefits to these market segments of the ODCD can be summarized as follows:

- *Finance and Insurance* – reduced risk, increased transaction speed and lower costs
- *GIS/Geospatial Information Services* – operational efficiencies, broadened application opportunities, reduced duplication, improved reliability and lower costs
- *Land/Cadastral Surveying* – reduced risk, increased quality of work, cost savings, operational improvements, better service to customers, and new business revenue
- *Law* – improved information, reduced risk, increased transaction speed and lower costs
- *Property Development* – improved information and lower costs
- *Public Administration* – reduced duplication, better decision-making, operational improvements and lower costs
- *Real Estate* – improved information, reduced risk, increased transaction speed and lower costs
- *Resource Development* – quicker and better decision-making, operational improvements, facilitated

communications with stakeholders

- *Utilities* – reduced risk, improved safety and lower costs
- *Value-Added Resale of Cadastral Data* – broadened data product opportunities and new business revenue

Location Assessment

The Location Assessment identified seven organizational options for the development of a high quality digital cadastral database, of which the following three are considered feasible by the Study consultants and the Digital Cadastral Database Task Force:

1. The *NewCo-Teranet Contract Option* will involve the formation of a new corporation (NewCo) and negotiation of a contractual relationship between NewCo and Teranet, under which Teranet will contract with NewCo for the supply of a cadastral database. NewCo will maintain the cadastral mapping database, which will subsequently be used by Teranet to maintain the ownership and assessment mapping databases.
2. The *NewCo Option* will involve the formation of a new corporation (NewCo) that will independently develop and supply a cadastral database.
3. The *Teranet Option* will involve the negotiation of some type of partnership between the land surveying community and Teranet for the development and maintenance of a high quality digital cadastral database.

Resource/Costs and Income/Benefits Assessments

The resources that must be developed or put in place for each of the feasible options were identified, and the costs of each option (i.e., for start-up, upgrading of existing mapping database and annual operations) were estimated. Detailed pro forma profit and loss statements over five years were developed for each option. These figures will only be released to parties that are committed to moving the ODCD initiative forward. It is important to note that the study estimates are preliminary, and have not yet benefitted from discussions with Teranet. They are meant as a starting point for discussion by whichever entities decide to move forward with the ODCD initiative.

Public Interest Benefits:

- *Facilitated data integration* – The ODCD will be easily and properly integrated with other layers of data, for improved sharing of data, value-added product development, better decision-support tools, and less overlap and duplication.

- *Improved day to day operations* – The ODCD will provide improvements to day to day operations, such as reduced data updating and adjusting other data layers, lower risks, improved safety and lower liability profiles.
- *Public interest* – The interests of the general public and major user communities will be better served, for example through better services at lower costs, more effective government decision-making, and better access to more information of use in the purchase of a home.
- *Continuous quality improvement* – The ODCD data maintenance model will ensure that the digital cadastral database is current to within a few days, and improves in accuracy over time.
- *Speedier property transactions* – Convenient access will enable the real-time integration of data about properties for sale with other data that will allow property transactions to be completed more quickly, at reduced levels of risk.

AOLS Member Benefits:

- Possible provision of access to the ODCD at no or minimal cost (AOLS to initiate and contribute to negotiations on this matter)
- Possible receipt of payment for digital submission of surveys (AOLS to initiate and contribute to negotiations on this matter)
- Possible receipt of ongoing royalty payments on ODCD data sales (AOLS to initiate and contribute to negotiations on this matter)
- Possible receipt of contracts for services to bring existing parcel mapping up to the ODCD standards and to upgrade the ODCD over time
- Opportunity to develop value-added services based on the ODCD and offer these services to third parties
- Benefits in carrying out their work:
 - Productivity improvements
 - Quality improvements
 - Reduced research time
 - Resulting cost savings

Risk Assessment

Risk assessment involved the identification of the following possible risks of this initiative, and the Study report includes the rating of their level of importance to its successful implementation, the evaluation of the probability of those risks occurring, and the development of strategies to mitigate the impact of the risks:

- Inability of the AOLS to move quickly enough to maintain leadership of the ODCD initiative
- Significant opposition from Teranet
- No support or cooperation from the Government of Ontario
- Significant opposition within AOLS membership
- Inability to raise necessary financing
- Inability to bring partners together
- Inadequate market take-up
- Inability to deliver ODCD on a timely basis
- Unacceptable liability risk profile


Conclusions, Recommendations and Considerations

Based on an analysis of the data and viewpoints gathered during the study from a document and literature review, interviews of key informants and two electronic surveys, a number of conclusions were drawn, and six recommendations and two considerations to address the substance of those conclusions were proposed. The recommendations and considerations can be paraphrased as follows:

Recommendations:

1. That the AOLS provide the leadership to proceed with the ODCD initiative
2. That the AOLS champion the formation of NewCo and support the development of a business relationship between NewCo and Teranet
3. That the AOLS move quickly and decisively to establish a process for identifying an organization(s) that is prepared to form NewCo
4. That the AOLS set standards for digital plan submissions in consultation with the Government of Ontario
5. That the AOLS assume a governance role in the ODCD
6. That the AOLS's governance role include assisting with the finalization of ODCD database content and specifications design, and pricing and licensing model development

Considerations:

1. That the AOLS work with the chosen ODCD organization to explore means of providing market access to an integrated set of draft plan data
2. That the AOLS negotiate privileged member access to the ODCD for internal use purposes, and a royalty model that provides a modest ongoing stream of revenue to members that have contributed cadastral data. 

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Gary Kirstine is a self-employed consultant. Gary has a Bachelor of Applied Science Degree in Civil Engineering (Survey Option) and is an Ontario Land Surveyor (Ret). His working career commenced in 1969 in the public sector at the Municipality of Metropolitan Toronto, where he held the position of Manager of the Central Mapping Agency. For the past 34 years Gary has worked with the Land Surveying and GIS firm, J.D. Barnes Limited. Gary held a number of positions at J.D. Barnes, including that of President for 7 years. He has participated in a wide range of land surveying and mapping projects including a number of digital cadastral mapping undertakings. Gary has been responsible for initiating a number of value-added reselling arrangements with Teranet as well as other data providers. He is completely familiar with the Land Surveying and GIS industries in Ontario.