Executive Summary

Research Related to Privacy and the Use of Geospatial Information

November 2009
Prepared for: Natural Resources Canada

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Contract number: 23483-090361/001/CY
Contract award: March 10/09
Fieldwork completed: October 9/09

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Canada

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Background: With the advance of digital technology, geospatial data is becoming more common through the use of global positioning systems (GPS), geographic information systems (GIS), and remote sensing. The exponential growth in the geomatics field during the last 20 years is not expected to slow in the near future and has led to growing requirements for a better means of sharing geospatial data. Since 1999, the federal government has invested in a national partnership initiative to improve the collective ability to share and use geospatial information through the Internet. This initiative, known as GeoConnections, a national partnership program, is led by Natural Resources Canada.

In order to assist those tasked with achieving the objectives set out for the GeoConnections program a user needs assessment was undertaken in 2006. One of the key outputs of this work was to identify the barriers or challenges that might deter the sharing of geospatial data. In this work, privacy was identified as a key barrier.

In 2009 Phase 5 was engaged to conduct research that would explore the privacy concerns of Canadians as they related to geospatial data in order to highlight concerns and issues requiring leadership from the Government of Canada.

Objectives: The specific research objectives included:

1. *Develop a better understanding of the current context* e.g.
    o   To what extent are Canadians aware of current and potential uses of geospatial data?
    o   What terminology do Canadians use and understand?
    o   What are Canadians opinions about the current environment?

2. *Identify <u>expectations</u> of privacy related to the use of geospatial data* e.g.
    o   What guidelines are / should be in place to protect an individual's privacy?

3. *Develop a better understanding of trade-offs Canadians are willing to make in order to receive services*

Approach: The approach to the work included three stages.

Stage 1: Phase 5 conducted a half-day working session with NRCan and advisory committee members.

Stage 2: Phase 5 conducted 29 qualitative interviews with Canadians.

Stage 3: A 20-minute nationally representative online survey was administered to 2,200 Canadians. No margin of error can be provided for the online survey as respondents for the online survey were selected from among those who have volunteered to participate in online surveys by registering for a consumer panel. To help ensure respondents reflected Canadians at a national level, data was weighted to reflect national statistics by region, age, gender, and urban / rural. A telephone survey of 550 Canadians was also conducted to validate the online survey results. The margin of error for the telephone survey is $\pm$4%, 19 times out of 20.

The results of this research will be used to strengthen the Government of Canada's policies, guidelines and procedures to protect the privacy of Canadians. The total expenditure was $98,898.00 plus GST.

Key Conclusions

Concern with privacy of personal information

- ***Generally speaking, respondents are very concerned about the privacy of their personal information.*** Privacy of personal information is a sensitive issue with more than half of all respondents indicating that they are 'very concerned' about the privacy of their personal information in general and over 80% stating they are 'concerned' or 'very concerned'.

- ***Over half of the respondents had experienced a violation of personal information or privacy.*** However, this had little impact on overall level of concern as it ranged from 80% to 85% for all respondents, whether they had experience a violation or not.

Comfort with Sharing Location-Linked Personal Information

- ***Control over the information being shared and the context (primarily the overall purpose) are <u>the</u> key drivers of comfort when faced with sharing location-linked personal information.*** Respondents are going to feel most comfortable if they have a high degree of control and the reason for sharing is related to a public good (e.g. enhanced public safety, improved health care services). The specific use, proximity (i.e. closeness to the individual such as real time location versus province or region) and who has access are of secondary importance.

- ***Conversely, situations where information is being linked to one's real time location, being used for targeted marketing, where there is no or little control, being shared with the private sector or general public and for reasons related to economic activity are most likely to undermine level of comfort with sharing.*** Any combination of these parameters would likely lead to high levels of discomfort.

- ***The research also indicates that respondents are fairly careful with respect to sharing their location-based information.*** Even in situations where the parameters are most likely to illicit comfort only 4 in 10 respondents indicate they would be willing to share their location-based personal information or feel comfortable doing so. This can fall to under 1% in some situations. However, even in the most uncomfortable scenarios if the context / overall purpose or level of control is changed there can be a meaningful increase in level of comfort.

- ***Respondents' level of trust in different types of organizations to keep their personal information secure is moderate to low.*** Fifty-eight percent trust medical institutions to keep their personal information secure, followed by 46% who trust federal and provincial departments. The least trusted were small private sector businesses (15%) and social networking sites (6%).

- ***Approximately 4 in 10 are comfortable with information being shared between federal departments and between federal and provincial departments.*** A further 3 in 10 were neutral, with 3 in 10 stating they are uncomfortable.

- ***A variety of factors contribute to respondents' confidence that their information will be kept secure. Support for 'evidence of strong technological safeguards' and 'strict penalties for misuse' were rated as the most important.*** However, a strong majority (over 90%) of respondents also viewed the existence of privacy policies governing how information is shared and accessed within an organization and with external organizations and clear oversight and disclosure of past privacy breaches as very important.

- ***Respondents consider their address, but not their postal code, to be personal information.*** The majority of Canadians consider their address to be private information even when it is not associated with their name (57%) and while most are comfortable sharing their address with organizations they trust (63%), they are generally not more comfortable sharing their address even if it is not linked with their name. However, only 3 in 10 consider their postal code to be private information.

Location-Tracking Devices

- ***Almost 2/3 of respondents are not currently using any devices with location-tracking technology.*** Among those who are, portable or built-in vehicle GPS units and cellular phones with built-in GPS are the most commonly used devices.

- ***Many respondents (half) do not perceive any benefits to location-tracking technology or are not sure what benefits location-tracking technology provides.*** Those who did site benefits were most likely to mention to improve child / personal safety, aid emergency services and to help find a destination / navigate a vehicle.

- ***Canadians support the use of location-tracking technology when there is a compelling benefit to doing so, such as to improve emergency services, improve child and personal safety, and improve law enforcement.*** When asked directly about the extent to which respondents support using location-tracking technology for various uses, respondents show high levels of support for using location-tracking technology to facilitate emergency services (89%), improve law enforcement (78%), and improve child safety (72%). In contrast, respondents tended to be unsupportive of using location-tracking technology to improve workplace productivity (25%).

- ***Two thirds of respondents have given some thought to privacy issues related to location-tracking technologies.*** Of these over 80% were concerned about images of their real-time location being posted to the Internet without their permission, sale of information concerning their movements to third parties, and hackers accessing information stored by the GPS enabled mobile phone provider. Unprompted concerns include invasion of an individual's privacy, big brother / excessive government control and the potential for victimization.

- ***Respondents' familiarity with Radio Frequency Identification (RFID) technology, a technology using radio waves to read information from personal identification such as credit cards and passports, is low***. Two thirds of respondents stated they are not

currently using any RFID-enabled devices nor are they familiar with the technology. About 15% seemed to be solidly familiar.

- ***The majority (68%) of respondents think it is important for the Government of Canada to regulate the collection and sharing of information concerning individuals' real-time movements.*** When specifics were explored a majority of respondents think it is important to have restrictions as to who information may be shared with (77%).

Online Mapping Tools

- ***The majority of respondents* (82%) had *used traditional online mapping tools.*** Those who had not, had generally heard of them. Fewer respondents, although still a majority (68%), had used satellite-views in online mapping tools, and again those who had not had typically heard of them. Less than half of respondents had used street-views.

- ***A modest majority of respondents are comfortable with their residence being identified on the Internet as a point on a map (60%) or a satellite aerial image (53%), but this drops considerably when it is identified as a street-view image (27%), particularly if there are individuals visible in the image (15%).***

- ***Respondents are not comfortable with images of themselves taken in public being posted to the Internet without their permission regardless of whether steps are taken to hide their identity.*** Even if their entire image is blurred out, less than half of respondents (43%) indicated that they would be comfortable with images of themselves taken in public places being posted to the Internet without their permission. Very few respondents (10%) were comfortable with such images being posted without their permission if no steps were taken to protect their identity.

- ***Respondents think it is important for the Government of Canada to regulate images of private residences appearing on Internet mapping tools.***   A strong majority of respondents (74%) think that it is important for the Government of Canada to regulate images of private residences appearing on Internet mapping tools. They feel most strongly about regulations to guide the posting of images of private residences with individuals' plainly visible, guidelines that require certain details be blurred to preserve privacy, restrictions as to the level of detail shown, and regulations about the degree of control individuals have over images of their private residence.

- ***Respondents who want the Government of Canada to regulate images of private residences on the Internet stated it is primarily to protect individuals' privacy, protect individuals from being targeted for crime and feeling that individuals should have control over this information themselves.***

- ***Canadians views on whether street-view images of private residences such as those on Google™ Street-View™ should be allowed in Canada are divided****.* Just over one-quarter (28%) agreed that it should be allowed, while 36% were neutral on the subject, and 36% felt that it should not be allowed. It should be noted, however, that the timing of the fieldwork for this study does not reflect the impact of Google's street-view service going live in Canada as the vast majority of the fieldwork was conducted just prior the service being launched in 12 Canadian cities.