Industry Canada
Information Highway Access Study

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COMPAS Inc.
Multi-Audience Research
Ottawa and Toronto

COMPAS

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EXECUTIVE SUMMARY

- Industry Canada commissioned COMPAS to undertake opinion research on access issues related to the information highway (IH). The research consisted of 12 focus groups among the general public during March, 1997. Groups were held in six urban and 'rural' locations, and were stratified according to participants' orientation to the new technologies (e.g. computer and Internet usage, level of interest in topic, etc.). That is, one group per set was held with people who are more embracing of technologically; the second group with those who are more resistant to it.

- There were significant differences in the views of participants in the 'embracing' versus 'resistant' groups. The former were very enthusiastic about the topic, and tended to be highly articulate, engaged and animated. In sharp contrast, many in the 'resistant' groups could not have been less interested in the topic, either for fun or profit. In general, they were less engaged, less animated, and also tended to be more fearful, intimidated, cautious and concerned about the new technologies, and resistant to them.

- There was general consensus regarding the most important information/ communications technologies. These were seen to be: the Internet, computers, telephones (including voice mail, answering services, automated voice systems), cellular phones, television, faxes, teleconferencing, satellites and radio.

- With few exceptions, participants in both groups viewed these types of technologies as being important. Importance was related to:
  - ⇒ the widespread use of these technologies in daily life (by business, other individuals or themselves)
  - ⇒ the impact on employment
  - ⇒ the power of the new technologies (e.g. increased efficiency/speed, greater convenience, enhanced capability in many fields)
  - ⇒ the link between the new technologies and competitiveness (seen to be closely interrelated), and
  - ⇒ potential cost savings to industry and consumers.

- There was a strong consensus that we are in the midst of an *Information Revolution*, where our society and economy are being fundamentally transformed. When people were asked to respond to this proposition, agreement was rapid, overwhelming and unequivocal.

- Participants cited a broad range of impacts, both positive and negative, that the new technologies have on themselves, their families and communities. Significantly, people tended to focus more on the concerns, rather than on the potential benefits.

- The following were the main concerns articulated by participants:
  - ⇒ Loss of jobs/increased unemployment
  - ⇒ Employment difficulties for people without computer skills
  - ⇒ Privacy issues (including the lack of personal security)
  - ⇒ Increased social isolation
  - ⇒ Increased workloads
  - ⇒ Increased stress
  - ⇒ Potential negative impact on families
  - ⇒ Access to inappropriate, dangerous information
  - ⇒ Increased dependence on technologies
  - ⇒ Less literate, enumerate society
  - ⇒ Fears that technology is 'in control'
  - ⇒ Uneven access that creates winners and losers, and
  - ⇒ Potential negative impacts on health.

- A range of positive impacts were also identified, the most prominent being:
  - ⇒ Economic benefits to Canada
  - ⇒ Greater productivity/increased capability of workers
  - ⇒ Easy access to more, better information
  - ⇒ Increased focus on 'intelligent' work
  - ⇒ Increased access to people, places
  - ⇒ Increased education opportunities
  - ⇒ Increased choice of where to live, and
  - ⇒ support for the growth of cottage industries.
  - ⇒ Facilitating and enhancing medical services.

- Participants typically do not initially mention personal economic benefits. However, when discussing the issues, they very clearly tie the ability to use computers (and to a lesser degree being on-line) to their personal economic security and that of their children. Economic security and prosperity are key concerns of Canadians, and are directly related to the issues discussed as part of this study (i.e. access to and use of technologies).

- Many of the issues identified above are two-sided. That is, the benefits are like double-edged swords that can cut both ways, while the concerns often have silver linings. Typically, people viewed the technologies as 'neutral' and highlighted the need for them to be used with a set of values. There was a strong sense that the concerns must be addressed if Canada is to take full advantage of the new technologies, and successfully adapt to the new environment.

- Two distinct, yet complementary themes emerged when people were asked to define the information highway. For many, the Internet represents its "core". In general, half or more of the participants in each group held this view (particularly true of 'resistant' participants). An extremely broad and more technically correct view

of the IH was also prevalent (held by many who saw the Internet as its core): that the IH is the collection of all the ways and means by which information is sent or received.

- Many feel that the information highway is already here, at least in an initial, prototype fashion. As well, many expect the *future* of the highway (and related technologies) to be less land-based, more interactive, and more interconnected.

- Many had difficulty identifying new services that would be available on the IH. This was linked, in part, to the wide range of services now available. New services that were identified were relatively varied. They tended to depend on the personal needs, wants or orientations of individual participants. The most prominent of these were medical, education, shopping and travel services.

- A host of factors were seen to determine *access* to the IH. However, cost was seen to be the most important factor. This includes capital (initial investment/upgrading) and operational costs, and skills training/upgrading. Other factors include:
  - ⇒ age
  - ⇒ education/background
  - ⇒ ability to use the technologies
  - ⇒ ability to find what you need
  - ⇒ speed of technological change
  - ⇒ time
  - ⇒ lack of interest/need
  - ⇒ fear/anxiety
  - ⇒ need for new vocabulary
  - ⇒ lack of privacy protection, and
  - ⇒ cost of adaptive aids for disabled.

- The opportunity for access was seen to be extremely important for all Canadians. However, people drew a distinction between *actual* access and the *opportunity* for access. Many felt that not everyone required the former. That said, people strongly felt that everyone should have the opportunity for access, to decide for themselves whether or not to access the services and technologies.

- While the opportunity for access is seen to be very important, access does not have to be from the home. For almost all participants, access through public locations would suffice for those who cannot afford computers in the home.

- Fear of being left behind was the reason cited most often to explain why access is important. This was clearly linked to people's economic security and prosperity. The issue was raised using almost identical language across the country.

- Rural participants felt that access was even more important for rural/remote areas. The reasons all have to do with their more remote location.

- Many participants (one-third to one-half) believe that they and their families will have access problems. The main reason was cost. This was followed by a lack of time, a lack of skills/knowledge, and perceptions that it is not easy to use.

- Participants were mixed as to whether the 'market' will provide sufficient opportunity for access on it own. Some felt it would not, citing reasons that centred on the profit orientation of the private sector. Others, however, felt that the market would take care of providing access, especially as technology makes itself more affordable.

- In general, the concept of subsidies to ensure access was rejected by everyone. Reasons include perceptions that public access sites are sufficient, that there is no money to do this, that cost arguments are overstated, and that it is just a question of where people's priorities are. Rather than pay subsidies to increase individuals' access, there was a clear preference for increasing the number of public access points (e.g. libraries, schools, community/recreation centres, etc.).

- A majority thinks there is a danger of Canada becoming a country of information 'haves' and 'have nots'. In fact, many think this is already occurring, and that it will get worse before it gets better. Concern was not unanimous, however. A minority felt that this danger was overstated. Reasons focused on their belief that access will be available in public locations, technology costs are coming down, and the same occurred with phones and TVs when they first became available (i.e. not everyone had one), and this did not result in a greater split in society.

- If Canada does become more stratified along these lines, the implications were seen to be significant: an increase in the number of 'have nots', a widening of the 'gap' between the 'haves' and 'have nots', and longer term societal consequences, such as increased crime or social strife.

- Those at greater risk of becoming information 'have nots' were seen to include low-income, less-educated people, and people living in rural locations (particularly isolated communities). Also mentioned were the unemployed and elderly.

- The telephone was identified as the only type of information/communications service that should be considered an 'essential service' that all Canadians must have access to. This was directly related to its value as a tool in emergency situations. No other services were seen to be essential. However, the opportunity for some form of access to the Internet/IH was seen to be essential in the future.

- Given the importance of computers, many focused on the role of schools and the education system. Numerous concerns were raised, including the uneven quality/

coverage of computers at school, and the impact of computer use/learning on other aspects of curriculum.

- Most participants were very satisfied with the phone service they receive (basic service, not long distance). While numerous complaints were articulated, these were not of sufficient importance to undermine people's overall satisfaction. Overall, a large majority believe they get value for money from their phone service..

- There was considerable confusion (and general lack of interest) in telephone pricing issues. Approximately half indicated some degree of awareness that residential phone rates have been cross-subsidized (i.e. by business, long distance). Participants were strongly supportive of the cross-subsidization 'model' (rural and urban participants). This approach was seen to enable all Canadians, regardless of where they live, to have affordable service. The issue was generally perceived in terms of fairness. Underlying this positive reaction was a sense that the cost of subsidization was not high.

- Given the level of support for cross-subsidization, it's no surprise that people view the move away from this approach with regret. Rural residents in particular dislike the move to cost-based pricing since they would be most affected by it. Most, however, would simply accept the price increases and move on. Most people thought that few would discontinue their service (although a few felt that some would, and some did say that they would reduce the number of optional services they now purchase).

- Participants see a limited role for the federal government in relation to the IH. In fact, many were quite negative about any government role. Having said that, others felt that the market, on its own, would not suffice. As such, a few basic roles for the government were identified -- that of watchdog, forward looking planner, protector of basic interests, and provider of access for those who cannot afford it. Canadians are looking to the government for some plan or vision for the IH, particularly given its perceived importance for nation building.

- Participants were unable to identify current government activities related to increasing access to new technologies such as the Internet.

- Francophone participants did not see much of a role for the federal government in promoting the use of French on the Internet. A certain degree of fatalism was apparent in people's reactions vis-à-vis the inevitable predominance of English on the Internet. The only clear role for the federal government is to ensure that French is used on its own websites. Other than that, there is some support for general promotion/facilitation of French-language content (although how this would be done is not clear).

- There was strong support for the provision of government information through electronic means. Benefits include ease of access, the speed with which information can be obtained, the up-to-date nature of the information, and the low cost of this form of access. However, a number of things were seen to be needed to ensure that Canadians can access and use the information/services that governments make available in this way. First and foremost is the requirement that information continue to be provided in non-electronic form.

- A clear majority favour a government role in the provision of consumer information, such as recalls or product and scam warnings. Most felt that this information coming from the government would be credible, although a few did not. The type of consumer information that was seen to be most valuable was anything to do with health and safety, particularly anything related to children. A few others were identified as having a role in this area, such as Better Business Bureaus and consumer groups, business associations, business research companies, and businesses themselves.

Conclusions and Recommendations

The research points to a polarized population with respect to technology issues. On the one hand are those who embrace the new technologies (in terms of acceptance, usage and interest). On the other are those who are resistant to them, either for circumstantial or attitudinal reasons. This suggests that a different approach is needed to communicate with each group about these issues. The former will reach out and grab what they can about the new technologies, the latter will likely not notice anything that is not placed squarely in front of them, in language that they can clearly relate to.

That said, it is significant that the issues and concerns raised by each segment were largely the same. Moreover, there was a high degree of consistency across the country in the concerns that were raised. The most prominent of these include:

- ⇒ employment losses;
- ⇒ the potential disintegration of our social fabric (i.e. increasing anti-social behaviour);
- ⇒ the potential invasion on privacy;
- ⇒ fears that we are becoming a more stratified society, with the rich becoming richer and the poor poorer, with the number of the latter greatly increased;
- ⇒ concerns about being left behind (either themselves and their family, others in society, or the country as a whole); and
- ⇒ control of potentially harmful or dangerous material (e.g. pornography).

It is important to note that while the groups typically began with a discussion focused on technology issues, this invariably turned into a discussion of social policy. The focus on the former gave way seamlessly to a concentration on the latter. This underscores the centrality of technology to people's future prosperity and place in society. A

consequence of this linkage (i.e. technology and social policy) is that people's general orientation towards the technology issues tended to be grounded in their own political ideology (i.e. left-leaning, right-leaning). As such, the role that people envisage for the government in the development of the information highway and the provision of access for Canadians is highly consistent with (and coloured by) their overall views about the appropriate role for government in Canadian society. At this time, this translates into general political support for helping to ensure a *degree* of access, but not for actions that have the appearance of indulgence or coddling.

On a macro level, people believe that technology can play an important nation-building role. The perceived linkages between technology and competitiveness (international and domestic) are strong. There was a relatively high level of astuteness regarding the importance of these technologies to the Canadian economy (even among 'resistant' participants). They see business applications of these technologies in many and often wondrous places: from farming, ranching and car sales to aircraft maintenance, millwright work and publishing. There was no dearth of personal anecdotes about the ways in which computers and related technologies are transforming what people do and how they live. Indeed, such anecdotes appear to represent the main 'lens' through which people view IT issues and the information highway. That is, few people have invested the time to develop an intellectual framework around these issues to help them interpret the issues.

For many, business applications are driving technology use -- through the workplace, banking services (highly emblematic of the technological transformation taking place in Canada at this time), retail applications, etc. People encounter the application of technology everywhere. When speaking about it, they draw on abundant personal experience from their daily lives -- their work, kids, consumerism. These anecdotes are persuasive to the individuals that 'own' them in terms of highlighting the impact of technology on Canadian life.

As a result of the increasing omnipresence of technology, people recognize and acknowledge the need to harness the new technologies to reap the associated benefits (or be left behind). There is a widespread sense that technology is moving very quickly -- too quickly -- and that it's hard to keep up. Even among those who are enthusiastic, there is a sense that they <u>have</u> to keep up regardless of personal preferences.

There was a strong sense that Canada has a significant opportunity to be a world leader in this area -- and people want this. It is an area that touches on national pride: an important area of global competition in which people feel that we are well placed to succeed. Competitive advantages that we have going for us include a highly developed communications infrastructure, an educated workforce, a world-class telecommunications sector, and many quality high tech firms.

This is not to say that there was any sense of urgency to this issue -- there was not. There were no calls for immediate action of any kind. Specific timeframes aside, however, there was a strong sense that Canada should be in the forefront of these technologies, and that an opportunity awaits us that we would be foolhardy to miss.

Most see both positive and negative potential associated with the technological transformation that is starting to take place. As a rule, Canadians see huge potential for gain, particularly at a national level, but often at an individual level as well. However, there is significant scepticism about where technology will actually take us as a society. That is, people are concerned that the 'promise' of technology may not be realized. For almost everyone, 'the jury is still out' as to whether the gains will be realized, whether our society and individual Canadians will actually be better off as a result. Indeed, some are very fearful -- for themselves and their families, and for society as a whole.

Canadians are starting to be able to give definition to the term 'information highway'. As recently as a couple of years ago, this was not the case. Clearly, this has been heavily influenced by the Internet, which has helped give more concrete shape to the highway. That said, a significant number still do not have an understanding of what is meant by the term.

In light of the research findings, we offer the following thoughts for Industry Canada's consideration:

* in light of the significant nation-building potential for the IH and related technologies, Canadians are looking for some vision and direction from government in this area.

* when talking about the information highway, communicators should use language and imagery that is consistent with people's understanding of the term. As such, the starting point is the Internet, with the end point being the collection (and possible interconnectedness) of all information and communications technologies. If this definition is not appropriate, messaging is needed to reshape people's understanding of the term.

* focus on support for the education system and other skills training (to the extent that jurisdictional constraints allow for latitude of action). People repeatedly came back to the central role schools play in preparing Canadians for the emerging information-based society. This has to do with the quantity and quality of computer equipment and on-line connections, and the curriculum itself.

* focus on increasing access to the Internet/information highway through public locations such as libraries (typically mentioned first and most often), community/recreation centres, malls, government buildings, etc. Related issues include hours of operation, cost, waiting time, length of sessions, assistance, etc.

There may be a place for some selected subsidies. However, these should be used sparingly, and only as a last resort for groups that are unable to obtain access through public places (e.g. some disabled people, residents of very isolated communities).

* explore ways to help people control and regulate unwanted information such as pornography and other potentially harmful material (this was largely a parental issue). People were very clear that they did not trust government to play a direct censorship role (and most felt that this was not achievable in any event), but looked to government for some help in this matter, perhaps through promoting/helping develop software that will help parents control this material.

* to the extent possible, address the various concerns that people have identified through this research, as well as the barriers to access. Moreover, communicate in ways that take into account and are sensitive to people's concerns.

* continue moving forward with the provision of government services through electronic means. While doing so, ensure that non-electronic delivery is retained for those who want or need this. Consideration should be given to expanding the options that allow the public to communicate directly with public servants (e.g. email).

* do not communicate to the public in terms of 'essential services'. The public does not think in this way, and does not recognize a need in this area other than to ensure a degree of access through public locations. Should the government feel the need to use this term, it should recognize that the term must be clearly defined (with examples) each time it is used otherwise it will not be understood.

* as noted (and expected), awareness of federal activity to increase access is extremely low. Consideration should be given to using local community newspapers to increase awareness. However, expectations of success should be realistic.

* when speaking to the public about telephone pricing issues, recognize the considerable confusion (and general lack of interest) that exists. Do not assume any degree of knowledge. If required to speak about the issue at all, explain the movement to cost-based pricing very clearly, keeping in mind that many do not know what the previous pricing approach was.

* as noted, there is a sharp divide between at least two population segments (there might be more) with respect to their orientations to these issues. To better understand the size of the different population segments and their attitudes, consider undertaking quantitative research to measure this.

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INTRODUCTION

Industry Canada commissioned COMPAS to undertake qualitative research on access issues related to the information highway. The research consisted of 12 focus groups conducted among the general public during March, 1997.

The main purpose of the study was to better understand public attitudes about access issues related to the information highway (IH) and related information/communications technologies and services. Specifically, the research was designed to explore:

- ◊ attitudes towards the new information and communications technologies, including their level of importance and perceived impact on Canadians;
- ◊ perceptions of the information highway, such as how people view the highway, when they think it will be operational, and new services that are anticipated or looked for;
- ◊ attitudes towards access issues, such as the degree to which access is important and why, factors that determine access, and views about what are 'essential services';
- ◊ views about the phone service people receive (local, not long distance), including understanding of the way in which prices are set, views about the cross-subsidization model, and the perceived impact of cost increases on affordability; and
- ◊ opinions about federal government involvement in this area, such as what role the government should play in the development of the information highway, awareness of current government activities, and perceptions of the provision of government information through electronic means.

The research consisted of 12 focus groups with the general public in both urban and 'rural' locations. The groups were allocated as follows: two groups in each of Toronto (urban), Montreal (urban), Cranbrook, B.C. (rural), Prince Albert, Sask. (rural), Jonquière, Quebec (rural), and Bridgewater, N.S. (rural).

As well, the following specifications applied:

- ♦ one-third of participants in 'rural' areas were drawn from the surrounding area (30-45 minutes out of the city);
- ♦ we recruited 12 participants for 8-10 to show for all groups (turnout was very good);
- ♦ participants were paid an incentive of $55;
- ♦ the set of two groups in each city were defined as follows:
  - ⇒ Group 1--Technologically embracing: all very interested in IT, at least half make regular use of a computer. [FOR RURAL GROUPS: all say very important for rural/remote communities to have access to IT; no CAP -- Community Access Program -- involvement].
  - ⇒ Group 2 --Technologically resistant: less interested in IT, occasional use or no use of a computer. [FOR RURAL GROUPS: less important

for rural/remote communities to have access to IT; no CAP involvement]

⇒ we also obtained a good mix of participants by age and education, with essentially equal representation of men and women.

Throughout the report, participants' comments are provided in quotation marks or italics and are either actual verbatim quotes or have been paraphrased to reflect the intent of the remark. For editorial purposes, the acronym IH will be used in places to identify the information highway. As well, the terms 'embracing' and 'resistant' will be used as short hand to designate participants for each of the two groups in each set. In a similar vein, the term 'rural' will be used to apply to all group locations outside of Toronto and Montreal.

The methodology used for this study produces results which are qualitative in nature. This is especially useful in exploring attitudes around the issues. However, the results should not be taken to be statistically representative of the views of the Canadian population at large. This study represents exploratory research on a very broad topic area. For the most part, opinions were solicited from people in an open-ended fashion (i.e. participants were not presented with much information or argumentation).

The principal investigator for this study was Stephen Kiar, COMPAS' senior partner, who also moderated the Toronto, Prince Albert and Cranbrook groups. Pierre Bélisle moderated the French-language groups and the Bridgewater, Nova Scotia groups.

Appended to this report are:

- ◊ a copy of the moderator's guide used to guide the group discussions; and
- ◊ a copy of the screening questionnaire used to recruit participants.

Big Variations Between Embracing and Resistant Groups

There were significant differences in the attitudes of participants in the 'embracing' versus 'resistant' groups. The former were very interested in and enthusiastic about the topic. They tended to be highly articulate, engaged and animated throughout the discussion (which many would gladly have prolonged into the night!). They clearly enjoyed the subject. They were able to deal with the theoretical issues well, appear to have given them some thought, and follow technological developments with interest. For them, these issues are important because they *are* the future: they are adventurous and curious about the technologies, already control them somewhat, and want to master them even more.

In sharp contrast, many in the 'resistant' groups could not have been less interested in the topic, either for fun or profit. Group discussions were characterized by frequent silences, and it was very difficult to get people to focus on the issues, to build a

dialogue. In general, they were less engaged, less animated, and generally flat. They also tended to be more fearful, intimidated, cautious and concerned about the new technologies, and resistant to them. Not only did they have less to say about the topic, they often lacked the vocabulary to say it. Most had not given much thought to these issues beforehand: they were often struggling with the concepts and had a harder time working through them. That said, most of the same issues and themes were articulated by both groups. The difference is that 'resistant' participants had much less to say about each topic and tended to focus on the negative (i.e. concerns not benefits). Demographically, 'resistant' participants tended to be less educated and older, although this was not consistent and quantitative measurement is required before drawing any conclusions on this score.

This attitudinal pattern was not only pronounced, it was highly consistent across most groups. The only exceptions were in Jonquière and Prince Albert, where the 'resistant' groups behaved much as 'embracing' groups elsewhere. Jonquière is a test market for a new interactive cable technology that has been heavily promoted. Participants in Jonquière have been exposed to a good deal of promotional information about UBI and many were, as a result, able to offer a clear and sophisticated definition of the IH. This suggests that the gulf between these two population segments may be bridged when technology makes itself readily available and accessible (or when significant money and time are expended to advance knowledge and awareness).

Interestingly, there was little variation in the attitudes of urban and rural participants. The one notable exception was when discussion focused on the unique circumstances of people living in rural/remote areas, about which rural participants were able to comment knowledgeably (and sometimes passionately).

CONTEXT -- PERCEIVED IMPACT OF NEW TECHNOLOGIES

This section explores perceptions about the kinds of information/communications technologies that are important, their level of importance (and why), and their perceived impact on Canadian society, participants' communities and the individuals themselves.

Participants Offer Common List of Most Important Technologies

There was general consensus regarding the most important information/communication technologies. When asked to identify the most important technologies that are out there now, or soon will be, a common list emerged across all groups. Technologies that were cited (in approximate order of the frequency of their expression) include:

- ◊ the Internet (including e-mail, the World Wide Web, user groups, Freenet)
- ◊ computers
- ◊ telephones (including voice mail, answering services, automated voice systems)
- ◊ cellular phones
- ◊ television
- ◊ faxes
- ◊ teleconferencing (including videoconferencing, videophones)
- ◊ satellites/death stars, and
- ◊ radio.

Also mentioned with less frequency were:

- ◊ CD Rom
- ◊ fibre optics
- ◊ *Windows* software
- ◊ 'smart' cards
- ◊ ATMs/home banking
- ◊ home shopping
- ◊ interactive cable, and
- ◊ the information highway.

Taken together, the responses suggest that participants think in relatively broad terms when reflecting on information and communications technologies. They also point to a relatively small set of technologies that have profile in this area.

Level of Interest in New Technologies Varies Significantly

Not surprisingly, the level of interest in these types of technologies varied considerably ('interest' was one of the recruitment criteria). Participants in the 'embracing' groups

were often extremely interested in new technologies and related issues. Some said they pay close attention to developments in this area -- by following the news, reading magazine articles, etc.

Conversely, those in the 'resistant' groups often expressed limited interest in the technologies. Moreover, the level of interest *claimed* by some people appeared to be overstated, as evidenced by their lack of interest in and knowledge of the subject matter in subsequent discussions. This suggests that they did not want to appear uninformed, and that the politically correct/socially desirable position is to appear at least somewhat interested in these technologies.

Reasons offered to explain why people are interested in the technologies are presented in the following section that discusses what makes them important. Reasons cited to explain a lack of interest include:

- ◊ perceptions that these technologies do not impact on their daily lives (or that they do not want them to);
- ◊ a lack of familiarity with the technologies ("You need to become accustomed to these things over time");
- ◊ feelings of intimidation or fear associated with the technologies; and
- ◊ concerns about the potential impact on society and personal privacy.

Representative comments include:

- * *The world moves fast, and you have to keep up. There's no way you can ignore these things.*
- * *You have to stay on top of technology to keep your job, get a new job, to stay employable.*
- * *People's use of these technologies is what makes them important.*
- * *I use these things every day.*
- * *I mostly don't pay attention.*
- * *Most of these new technologies do not impact on my life.*
- * *It kind of scares me. I find it overwhelming.*
- * *I'm interested and intrigued, but cautious. What are the technologies doing? How will they impact on society?*
- * *I'm concerned about how these technologies may be isolating us.*

Importance of Technologies Linked to Many Factors

With relatively few exceptions, participants viewed these types of technologies as being important. Importance was related to:

- ◊ the widespread use of these technologies in daily life (by business, other individuals or themselves). There was a strong sense that business is driving the increased use of technologies, through use within the workplace, through the provision of services (e.g. banking services -- some felt pushed into using

ATMs), and through various other applications (e.g. the emerging need to have an e-mail address on business cards);
- ◊ the impact on employment (e.g. use of computers to do résumés, get a job, keep a job, and stay 'employable' -- "You need to keep up with the evolving business world");
- ◊ the power of the new technologies (e.g. increased efficiency/speed, greater convenience, enhanced capability in many fields);
- ◊ the link between the new technologies and competitiveness (seen to be closely interrelated);
- ◊ potential cost savings to industry and consumers (e.g. e-mail over long distance calls);
- ◊ the need to keep up with new technologies or be left behind;
- ◊ importance of these technologies for children/the next generation; and
- ◊ the simple joy of using them ("I like toys").

Perceived Impact of Technologies: Many Focus on Concerns, Benefits Less Top-of-Mind

Participants cited a broad range of impacts, both positive and negative, that the new technologies have on themselves, their families and communities. Significantly, people tended to focus more on the concerns they have with the new technologies, rather than on the potential benefits. This was true even among those who saw considerable benefit flowing from the technologies, and were very interested in them.

Overall, 'resistant' participants were less able or willing to cite positive impacts of the technologies on themselves or their communities. 'Embracing' participants could readily envisage both benefits and drawbacks to the coming future. In general, the same list of benefits and drawbacks vis-à-vis the new technologies was provided across all groups and regions of the country.

The following concerns were articulated by participants:

- ◊ Privacy concerns: the potential invasion of privacy was raised in all groups, by many people. In fact, most expressed significant concern about it. This issue involves the spectre of 'Big Brother' and makes people very uneasy. People are concerned that other people/organizations know too much about them and can use this information in subtle (or less subtle) ways. They find this unnerving -- even simple uses of personal information with clear, positive objectives. This issue has many overlapping aspects:
  - ⇒ the sharing of electronic information about people between different organizations (e.g. government, business databases/lists);
  - ⇒ the targeting of sales and services to individuals based on information about them. Numerous examples were cited: Radio Shack knowing what size of cell

phone batteries a customer needs, Pizza Hut knowing previous orders, women's clothing stores knowing customers' sizes, a department store knowing that a customer's mother had been shopping there recently;

⇒ targeted marketing pitches (e.g. museum fundraising, etc.) by others who purchase lists ("I always wonder where they get my name from") . A related concern is an increase in 'junk mail' of this type;

⇒ Interac cards were almost seen to be acting like an 'implant' in people that would enable others to know where they have been, what they have done, what they bought, etc. Others can know where they are, even if they are out of the country on vacation; and

⇒ lack of privacy for cell phone conversations.

⇒ Representative comments include:

* *There's so much personal information about people. The sheer volume of it makes access to it easier.*
* *We're losing privacy. Others can find out a lot about you.*
* *It feels like Big Brother is watching. It's so interconnected, it's scary.*
* *You have to think about it and be concerned. There is enormous potential for corruption.*
* *Information has always been available [on paper] but now it is easier to get it.*

◊ Lack of personal security: concern about security issues is very much a subset of the privacy issue discussed above. It concerns the lack of security when transmitting information of any kind electronically. An area of special importance is the use of credit cards for purchases through the Internet and cell phones. Also important is the transmittal of personal information, such as financial information or background information, through electronic application forms and other forms.

◊ Increased social isolation: this concern was frequently articulated by participants, and is linked to increased use of computers, e-mail, the Internet, and voice mail. While some fear that increased social isolation will result in the future, some see it as happening right now. Evidence includes addictive/compulsive behaviour (i.e. at the computer for extended periods), reduced social interaction (e.g. fewer people attending community functions), kids playing Nintendo for hours (and not encouraged to be active or fit), and decreased interpersonal/communications skills. In one group the term 'monitor potato' was used in place of 'couch potato'. People tended to focus on youth when expressing concern, but not exclusively. The main concerns were less human contact, and a loss of interpersonal and communications skills. Many felt that there are serious social implications, and that society is not presently dealing with this. Representative comments include:

* *There's less personal interaction.*
* *Verbal communications skills are slipping.*

- * *I don't think we are handling this as a society. It scares me. We are not even addressing it.*
- * *People are getting together less, such as hockey games or other recreational activities. It's getting worse. It started gradually.*
- * *People who spend too much time in front of a computer can't communicate. There's no eye contact. We saw it with engineering summer students we had.*
- * *Interpersonal skills are going downhill. It happens when people only talk to machines.*
- * *Kids become reclusive, after sitting for hours in front of the computer.*
- * *I've seen my kids become more agitated after playing for hours at the computer.*
- * *Kids might do things sitting in front of a computer that they would never do otherwise, such as calling an adult a NAZI. Teenagers feel powerful behind a computer, and there can be serious consequences to this.*
- * *It reduces the quality of community. There is less interaction, less human contact. One neighbour I never hear from now that she 'hooked' on the Internet.*
- * *It's like with video games, when they are using the Internet people have no idea of what is going on around them.*

◊ Loss of jobs: this concern was cited often and early in most groups. Technology is seen to result in job losses because it enables firms to reduce their workforce. Few felt that the new jobs created by technology would be sufficient in number to offset the job losses. Some did feel that the 'new' jobs would likely be better than the jobs that are lost, but that access to the new jobs would be restricted to the 'elite' (i.e. better educated):

- * *The new technologies will cost thousands of jobs. And all the workers left in the system will have higher stress because there is more work and fewer people, so they will have to work harder.*
- * *Computers are displacing people at an alarming rate.*
- * *It is mostly a disadvantage. We can't overcome the unemployment numbers, so we will end up with a smaller consumer base that can buy things. It's all short-sighted.*

◊ Employment difficulties for people without computer skills: a related issue is that people who do not have computer skills will have serious trouble finding/keeping work. This has implications for job training, up-grading and continual learning:

- * *No computer skills, no job.*
- * *You have to keep up with computer use to get and keep a job.*

◊ Increased workloads: there was a widespread sense that the computer and other technologies have not made working life easier, but harder. People can now be more productive, so are *expected* to produce more. As well, technology has enabled firms to cut their workforce, which has lead to increased workloads for those who remain. And technology makes work more accessible (i.e. from home, 24 hours/day, 7 days/week). PCs and cell phones both increase people's access to work. A related concern is the increased intrusiveness that goes with this round-the-clock accessibility:

* *The work can follow you all the time. It's harder to get away from it.*
* *The speed of everything is increasing. I see the need to slow things down. There was supposed to be more leisure time, but there's not. If anything, people are working harder.*

◊ Increased stress: the technologies are seen to contribute to a more stressed out society in a number of ways: increased workloads for those who have jobs and increased anxiety among those who do not or who fear being left behind because they do not have the necessary skills or knowledge.

◊ Potential negative impact on families: Because of increased workloads, more stress, more addictive behaviour, less social interaction, access to pornography, etc., many people see a negative impact on families and family life. For instance, if a parent is working all day at the computer on Saturday and is therefore removed from the family. The same is true of a teenager 'planted' in front of the computer using the Internet or games. Others, however, see a positive impact on families, through joint learning through the computer, increased sharing, more convenient access to information from the home (so people don't have to go out to libraries, etc.), and the growth of home businesses.

◊ Access to inappropriate, dangerous information: this was linked squarely to the Internet, with people citing access to pornography, as well as other 'anti-social' sites (e.g. bomb-making recipes). It appeared that English-language groups tended to be more concerned about pornography and less about other potentially dangerous material (with the reverse true for French groups):

* *Young people are exposed to dangerous or damaging information.*
* *You don't want kids to have all this information, especially pornography. But you don't want to shut it all down either.*
* *We need controls of some kind to stop kids from having access to some of this information, like a librarian. We don't want them to have information on how to make a bomb, or pornography. But I don't trust government to do this.*

◊ Increased dependence on technologies: the power and capability of computers can result in people becoming overly dependent on them. This can result in skills atrophying and serious work problems when PCs/networks are not functioning. As an extreme expression of this concern, a few thought that dependence on technology would make people less responsible and more lazy:
  * *Computers will tell them what to do. They will think less and become reliant on them.*
  * *We're becoming more powerless, less able to do things on our own. We're becoming more dependent on computers.*
  * *Skills will be lost when people don't use them anymore.*

◊ Less literate, enumerate society: related to the above, a few people believe that increased dependence on computers and other technologies will result in a loss of reading, communications and counting skills:
  * *The other day, a store clerk had trouble counting the correct change.*
  * *People are reading less, it's less important for students. We are becoming a less literate society.*

◊ Impact on children in school: related to the above, there was particular concern about the impact this might have on children in school. Some feared that students would no longer be taught to think, but rather simply to use the tools and get easy answers back. There was a strong sense that children should be given access to computers as tools, but that they should be taught how to think:
  * *Their minds are not being trained*
  * *They are not being taught to use their brains*
  * *It can be too easy for them. They don't have to look for information, don't have to read. It's all given to them.*

◊ Decrease in general skills: there was a sense that technologies result in greater specialization and that, as a result, there will be a corresponding decrease in the general skills that are present in society (i.e. thinking, counting, communications, negotiations, etc.).

◊ Fear that technology is 'in control': a number of people, in both types of groups, felt that there was a danger that technology is starting to run thing. Various types of examples were offered as evidence: students locked out of computers until they straighten out tuition/fee problems, and truckers with computer monitoring on board who can lose their jobs if the measurements are not appropriate. For some, this issue overlaps with the privacy issue, where computers allow others to know "too much about us", and thereby gives them a measure of control.

◊ Addictive behaviour: there is concern that computers foster compulsive, addictive behaviour, such as through use of e-mail, the Internet, user groups/chat lines, or computer games. A number of participants had 'horror stories' about people in their community who were 'addicted', while others saw TV shows about Internet addicts such as *60 Minutes* and *Dateline*:

* *There is something addictive about screens of any kind -- TVs, computers, whatever. Screens are habit-forming.*
* *It is another form of gambling.*
* *It can lead to broken homes.*
* *There are information addicts, people who can't get enough. They have a small attention span, and look for all kinds of strange things.*
* *They had to ban chat lines in the local college [Cranbrook] because people on campus were using them to talk to one another. Researchers weren't able to use the Internet because of it.*

◊ Uneven access creates winners and losers: participants expect access problems for some people, both individuals and regions. This was seen to create winners and losers. Some feel that we are becoming a nation of information haves/have nots (expanded on below). As well, there was a perceived unevenness among schools, where some classes have computers and some don't, and where some schools have good, modern equipment, while others don't. There was no consensus on this point, however, as some felt that access would not be a problems, as rates and prices come down:

* *If people aren't trained in computers, they'll be left behind.*
* *Will we all have access to this?*
* *Some people can't afford computers and they'll be left behind. So will their kids.*

◊ Pushed to use electronic services: one concern frequently cited, particularly by "resistant" participants, is being forced to use electronic services when they don't want to. Banks and trust companies were singled out. While many are very comfortable using ATMs and even banking by phone or computer, some are not and felt strongly that the choice should be theirs:

* *Banks don't want you in their buildings anymore.*
* *When I tried to use a teller, they kept pushing me to use the machine.*

◊ Potential negative impacts on health: some people cited a number of different impacts that computer use would have on people's health, such as eye strain and other eye problems, carpal-tunnel syndrome (i.e. repetitive movement strain), and possible health problems related to radiation.

Other concerns that were mentioned by smaller numbers include:

- ◊ information overload (i.e. too much information available);
- ◊ the negative impact on older people, who will find it hard to keep up;
- ◊ the need for continual retraining to stay up-to-date;
- ◊ the cost to buy and update computers ("It becomes obsolete so quickly"; "The new technology becomes outdated fast. You need upgrading almost right away");
- ◊ the more you learn, the more you need to know; and
- ◊ more junk mail, through the Internet.

A range of positive impacts were also identified. These include:

- ◊ Economic benefits to Canada: numerous people felt that there is the potential for significant economic benefit to the country *if Canada becomes a leader in this area*. The harnessing of new technologies was seen to bestow considerable competitive advantage on countries in the forefront and significantly strengthen their economies. Many felt that Canada was well placed to be a leader in this area and should do exactly that. They pointed to a number of competitive advantages that Canada has going for it, including widespread accessibility of the new technologies, our expertise in telecommunications and satellite technologies, quality infrastructure, an educated workforce and competitive, high-quality high tech firms:
  - * *It can make us more competitive in world markets. Like the U.S., we need to become a leader, not just a follower.*

- ◊ Greater productivity, increased capability: this covers a wide range of factors which have in common increased productivity. It includes everything from the ability of workers to be more productive and more accurate, to specific capability enhancements for specific jobs (e.g. easier trouble-shooting for mechanical problems with airplanes or cars; easier, more efficient book publishing; and more efficient cattle-breeding, including genetic matching and price monitoring). It is noteworthy that many participants offered anecdotal evidence about how their work activities were being enhanced or transformed. The flip side to this is the increased dependency that results (see above):
  - * *The power of computers is remarkable, compared to the 1960s.*
  - * *If you need your car fixed, they just need to look at the computer chip.*
  - * *Productivity and quality are improved. But what do you do with the people?*

- ◊ Easy access to more, better information: through the Internet, CD Roms, etc. Kids can stay at home in relative comfort and safety and conveniently access a huge range of information. Also commented on was the speed with which knowledge is spread and updated:
  - * *It's amazing. Instantaneous.*

- *No matter what you're doing, you can get information to help you.*
- *Kids used to have to go to the library before. Now they can do it all from their computer through the Internet.*
- *The information can be very up-to-date.*

◊ More focus on 'intelligent' work: there was a belief that technology would streamline and eliminate many of the more basic, manual, routine or uninteresting work. People would then be able to concentrate on the more interesting, intellectually-challenging work:

- *It gets rid of the tedious work, although unemployment results.*
- *People will be freed up from the more mundane jobs.*

◊ Increased access to people, places: the flip side of concern about social isolation is the belief that technology helps bring people together, enables them to be in contact with other people and places across the country or the world. It provides one more way to communicate with people, particularly a low-cost means of communicating over long distances. This also includes the link to other markets:

- *There's more contact with individuals on a global basis. The Internet collapses distances.*
- *The Internet puts us in touch with the world. It reduces our isolation. -- Prince Albert resident*

◊ Increased education opportunities: seen to have tremendous potential to support education through things like distance learning, on-line education services, adult education, and encyclopedic access to information for students of all ages. Technologies also help students with learning problems ("There are programs to help them keep up"), and help the disabled access information and services. A negative side of this issue was that some felt universities were using technology too much ("They use TV screens instead of professors").

◊ Increased choice for where to live: there is more choice and flexibility on where people can live. The technologies reduce the need for people to live in or even close to cities. There is more opportunity to go only infrequently to cities, to meet people as needed, with other work functions performed at home. In short, IT was seen to "decentralize people". For more remote regions, such as Prince Albert, some felt that this would enable the community to hold on to people who might otherwise have to move away to find jobs (although others felt that the impact would be minimal or even negative):

- *Its good for smaller communities. The youth can stay and find jobs -- Cranbrook, B.C. resident.*
- *It decentralizes businesses, resulting in less traffic congestion. We're becoming connected by technology, not roads.*
- *As long as you can connect, your physical location doesn't matter -- then you are equal.*

- ◊ Enables cottage industries: related to the above, technology was seen to support the creation/operation of new businesses, either from people's homes or in more remote areas where such businesses would not previously have been viable.

- ◊ Reduced discrimination: mentioned on a number of occasions, electronic communication and commerce were seen to be "less judgmental", less discriminatory ("People can't see who you are. Everyone is equal").

- ◊ Increased skills: some feel that the new technologies will help people develop their skills to find information, to interpret it, to "do a triangulation to determine what the information says" (i.e. to place the information within context to better interpret it).

- ◊ Cost savings: through things like reduced hard copy costs for updating manuals, directories, and other documentation.

Other positive impacts that were mentioned include:

- ◊ provides time efficiencies;
- ◊ makes people aware of differences, promotes peace;
- ◊ helps the environment by moving economy away from industrial (polluting) activity to more information-oriented (and cleaner) activity; and
- ◊ provides more retail service options, such as catalogue shopping and brokerage services for car buying.

A common refrain focused on the significant potential of the new technologies for both good and misuse. Typically, people tended to view the technologies as 'neutral' and highlighted the need for them to be used with a set of values:

- * *We need to change our values for technology to be of benefit.*
- * *If we use it properly, there could be huge potential. But I'm not sure that will be realized.*

Other observations include:

- ◊ many of the issues identified above are two-sided. That is, the benefits are like double-edged swords that can cut both ways, while the concerns often have silver linings (e.g. bring people together and push them apart; positive and negative impacts on family life);
- ◊ there was a strong sense that the concerns must be addressed if Canada is to take full advantage of the new technologies, and successfully adapt to the new environment. There was a strong sense that, at a minimum, we (society) should monitor carefully what is happening;
- ◊ banks were often cited as examples of the transformation to an electronic society. In this sense, they have emerged as one of the main symbols of this, for better or worse;

- there was a sense that young people will accept the new technologies earlier and easier than others ("It's good for the kids. It's like metric. It's too late for us, but they'll learn it easily"); and
- there would be an impact on legal issues, such as the way records and databases are created and maintained (e.g. health records/documentation).

Strong Consensus That Society Is Being Fundamentally Transformed

There was a strong consensus that we are in the midst of an *Information Revolution*, where our society and economy are being fundamentally transformed. When people were asked to respond to this proposition, agreement was rapid, clear, overwhelming and unequivocal.

Indeed, many believe that the impact of the changes taking place will surpass those of the *Industrial Revolution*, and that the repercussions cannot be comprehended, in part because the rate of technological change is so great. The inability of even 'embracing' participants to generate little more than a list of already existing services that they expect the IH to provide supports their belief (i.e. it is unclear exactly where this is all headed).

When asked to explain why people thought we were in the midst of a fundamental transformation, there was no lack of evidence. People pointed to the factors just discussed: positive and negative impacts of the technologies (for editorial and analytical reasons, both 'lists' have been combined).

Representative comments include:

- *There will be economic gains for Canada.*
- *We will have no choice but to keep up.*
- *The labour intensive work would be done in other countries. In Canada, with our investment in human resources, we'd do the knowledge jobs.*
- *It will enable us to stay up with the world, make sure we can compete -- in knowledge that's out there and in marketing our products and services.*
- *Governments have to be forward looking, to try to help us avoid the pitfalls.*
- *It's all happening very fast. It's much faster than the speed of the Industrial Revolution.*
- *It can't be resisted. It's the way things are going. So much money is being invested in this [new technologies].*
- *Better quality of life and more free time, versus being more productive.*
- *Technology assisting people is a good thing. Technology taking over is not. It seems to be taking over.*
- *It will have a negative impact on young people, both emotionally and mentally. There's information overload, too much is available.*
- *It will widen the gulf between rich and poor.*
- *It's not going to go away. You need to adapt.*

FOCUS ON THE INFORMATION HIGHWAY

This section explores issues specific to the information highway. In it, we determine the way in which people define the term, their views about when it will be operational, its relationship to the Internet, and the new services which they think will be available through it (and what services they would want to receive).

The Internet -- the 'Core' of the Information Highway

Two distinct, yet complementary themes emerged when people were asked to define the information highway (Question: When you hear the term 'information highway', what does it mean to you?). While not unanimous, these themes emerged with significant clarity and resonance.

For many, the Internet represent the "core' of the information highway. In general, half or more of the participants in each group held this view. This was particularly true of 'resistant' participants -- they often either did not know the difference between the terms 'information highway' and 'Internet', or believed that both terms had the same meaning. However, many 'embracing' participants also felt that the Internet was an integral part of the IH, and tended to view it as a subset of the highway. Representative comments include:

* *It's the Internet, with websites all over the world.*
* *The Internet is its core, but much more will be added to it.*
* *The Internet is the first road in the highway, but it will move beyond this.*
* *It overlaps with the Internet, but is much broader and includes things like TV and video. It will have services on top of the Internet.*

An extremely broad and more technically correct view of the information highway was also prevalent (held by many who saw the Internet as its core). According to these people (most of whom were 'sophisticates'), the IH is the collection of all the ways and means by which information is sent or received. That is, the IH serves as a metaphor for all the interconnections between individuals, households, and companies. Within this broad definition, the focus was on information and communications connections. The IH was seen to be international in scope. Comments include:

* *All information and communications technologies are part of the information highway. Anything that receives or sends information.*
* *It means access to anything you want.*
* *It includes fax machines, phones, pagers, TV, and other ways to get information.*
* *I think it's everything that is electronically connected. Anywhere you can go physically, you can go electronically.*
* *All the different ways that information travels.*
* *It includes anything that has to do with information, such as CD Roms. They do not need to be connected.*

Typically, 'embracing' participants had more vision about the information highway, and tended to offer more robust, varied, and future-oriented definitions. A significant number of 'resistant' participants did not know what to make of the term, and did not even hazard a guess ("It means I'm not on it"; "I don't know about it, but it's leaving me behind").

Many participants (esp. in 'embracing' groups) expect the future of the information highway (and related technologies) to be:

1. less land-based (particularly evident among 'rural' participants, who anticipate greater reliance on satellite technology);
2. more interactive; and
3. more interconnected (that is, information/communications technologies connected to one another).

Additional comments about the information highway include:

* *Zing -- faster than you can see it. Like telephone polls sailing past when you drive.*
* *The pathway information travels on.*
* *It's like the LA freeway, packed with information not cars.*
* *It's a pipe of underground cables.*
* *A means of getting more information.*
* *They're making a bigger deal about it, hyping it, and that's scaring some people.*
* *Ability to learn a living in future.*
* *Verbal diarrhea.*
* *I used to envision it as a network, but not now. I see it jumping to the airwaves through satellites and phones, where people won't even need a computer.*
* *I see a new type of computer, where it moves from the desk to the TV.*
* *A world of possibilities.*

Other observations related to the information highway include:

◊ a small number of people saw the term as describing the Internet's hardware infrastructure;

◊ reaction tended to be mixed as to whether broadcasting was part of the information highway: many felt that it was a key part of the IH, while others thought it was not part of it. There was no consensus on this point;

◊ a few people interjected at this point in the discussion their view that not all the information on the Internet/IH is useful or true. Some drew a distinction between information and misinformation, feeling there was a significant amount of the latter ("There's a lot of disinformation on it. It's hard to tell what's true or false, hard to know what to trust"; "There's a lot of garbage on it. Much of the information on the highway is junk mail"). It was clear that people who had never seen the Internet have difficulty envisioning what it

looks like, what type of information is available. In some cases, there is considerable suspicion about the information that is there (a few think it is dominated by advertizing or other self-interested information -- they have trouble conceiving of it in any other way).

Information Highway -- A Work in Progress

Many participants feel that the information highway is already here, at least in an initial, prototype fashion. This was particularly true of 'embracing' participants; as noted, 'resistant' participants tended to view the IH as the Internet or were unsure what it was. Many think the IH is already in place and that it will grow in size and bandwidth in the coming years, will have more technologies connected to it, and may become more standardized or regulated. Comments include:

* *It's ongoing. It's in progress now.*
* *It's in the making now. A work in progress.*
* *It already exists, with the Internet, telephone, modems, radio and TV.*
* *Sooner rather than later.*

Based on previous survey research we have conducted on this subject, the IH appears to be more 'real' to people now than it was two years ago. Then, it tended to be viewed with considerable confusion, and was more of an abstract entity than anything tangible. Now, people appear to have an easier time envisaging the IH. This is likely the result of the Internet coming on stream during this period. For many, this has given the IH some definition or shape that was previously missing.

Many Have Trouble Citing New Services

Many had difficulty identifying new services that would be available on the IH. This was even more noticeable when trying to list services that would be of interest to them. This was particularly true of the 'resistant' groups. One main reason was offered to explain people's inability to cite new services: the wide range of services that are out there now:

* *There's so much there now. It's hard to think of more.*
* *There's so much available, it's hard to think of what's new.*
* *You'll be able to get anything you want.*

Services that were identified were relatively varied. They tended to depend on the personal needs, wants or orientations of individual participants. New services that people think will be available or that they would like to receive include (in approximate order of the frequency of their expression):

◊ *Medical services*: frequently mentioned, this involves facilitating or enhancing medical service either by improving communications between doctors (e.g. doctors in remote areas can consult with specialists in larger cities),

connecting physicians with other resources (e.g. diagnostic machines), or providing consumers with access to more knowledge/information (e.g. on prescription drugs: side effects, etc.).

- ◊ *Education services*: things like distance education, support/tools for parents who want to teach their children at home (e.g. curricula, resources), language courses, other types of courses (different levels: secondary/post-secondary), and educational software.
- ◊ *Shopping services*: retail, groceries, car parts, real estate, etc. This even includes international shopping (e.g. shops in London, Munich or Tokyo). Note that many were not interested in shopping services, preferring instead to go out, see the products, talk to people, etc. A few were concerned about security (i.e. credit card numbers), and felt that this would impair their ability to transact purchases in this way.
- ◊ *Communications services*: things like continuing with/enhancing e-mail, videoconferencing, and cheap long distance communication.
- ◊ *Banking services*: mixed reaction to this, since many do not like the trend in the banking industry to electronic service delivery. Others, however, are very comfortable with it. This would also include financial information (e.g. stock market reports).
- ◊ *Travel services*: including the ability to purchase tickets, obtain information about destinations (to help plan a holiday, get political updates, etc.), and tour sites in other cities via computer graphics (e.g. Smithsonian museums).
- ◊ *Government services*: access to a broad range of government services for multiple levels of government. It includes access to all kinds of information, including programs, services, regulations and legislation. It also includes the ability to put in applications (e.g. UI claims), and to communicate with government officials via e-mail (avoid busy signals, telephone run-around, voice-mail, etc.).
- ◊ *Support home businesses*: all manner of services which support home businesses.
- ◊ *Employment services*: such as job banks across Canada.
- ◊ Some way to verify or document information that is on the Internet. Noted by students, there is a need to make the Internet more reliable and useable as a documented source of information.
- ◊ Universal translation (like ATT now offers).
- ◊ Voice activated computers (so person would not need to type at all).
- ◊ Video on demand.
- ◊ More Canadian content/material (identified by few).
- ◊ Information useful to one's job (e.g. farming prices).
- ◊ Access to public libraries (like the U.S. Library of Congress).

A few people in rural areas wanted cheaper, more reliable access to the Internet (seen as the way many of these services would be delivered). This means fewer busy signals and more affordable telephone service (particularly cost of installing second line).

FOCUS ON ACCESS ISSUES

In this section, we explore attitudes towards access issues, such as the way in which people define access, the degree to which access is important and why, the factors that determine access, and views about what are 'essential services'.

Access Means Availability, Affordability

Availability and affordability are seen to be the key elements of access to the new technologies or services, including the information highway. These factors were typically cited first and most often when people were asked to define what the term 'access' means to them. With respect to affordability, this means capital (initial investment and upgrading) and operational costs, and skills training/upgrading.

In general, people were comfortable understanding and talking about access issues. When talking about access, most focused on access from the home, not the workplace or elsewhere (as we had asked them to do in the introduction).

Note that access discussions focused on access to computers (and the skills to use them) and access to the Internet/IH. Computers are the gatekeepers to a world of information and services and, as such, are a key factor.

Many Factors Determine Access

By this point in the discussion, participants had often raised problems that some people might have in obtaining access. A host of factors were seen to determine access to the new information technologies and services, including the IH. However, cost was seen to be the most important factor by far.

The main barriers to access were seen to include:

- ◊ *money*: as noted, this includes capital, operating and training costs.
- ◊ *age*: many felt that age represents a significant potential barrier. They felt that older people would likely experience greater difficulty trying to access the IH for various reasons: they might be more resistant, more fearful/anxious, and less comfortable with the technologies, or less able to learn the skills needed for access. The fixed incomes of many elderly people might also be a barrier, as might reduced opportunities for access (e.g. programs not targeted at this age group; "Government programs focus mainly on young people").
- ◊ *education/background*: a person's academic and employment background were seen to be significant factors. Participants felt that less-educated people

would have greater problems accessing/using the IH. There was a sense that people need formal education over which can be layered computer training.

- ◊ *ability to use the technologies*: this includes not only a person's skill level but also the user-friendliness/ease of use of the technology itself.
- ◊ *ability to find what you need*: some noted the difficulty people can encounter trying to find what they need or want. This can be frustrating which, in turn, can turn people off. Access requires understanding the kind of information that is available, and how to find it.
- ◊ *speed of change*: need ongoing commitment to keep up with rapidly changing technology ("What's next? When will it level off?").
- ◊ *time*: many people simply do not have the time to access/use the IH. As well, the time for loading graphics, etc. on the Internet was cited, as was the time it takes to log onto the Internet in rural locations (i.e. busy signals -- see below).
- ◊ *lack of interest/need*: some people may have no need for access ("What can it do for you?"; "There needs to be attitudinal buy-in as well").
- ◊ *fear/anxiety*: it was noted that many are fearful or anxious about the new technologies. A related issue is a lack of trust in them (e.g. not trusting that the technology will work, not trusting providing financial information on-line).
- ◊ *need for new vocabulary*: it was noted that there was a need for a whole new vocabulary in this area (e.g. websites, hot-links, etc.) and this was seen to intimidate some people ("Computer language is foreign to many people. It's hard to hold a conversation unless you know the language. After five minutes, I'm completely baffled"; "The language is alienating"; "Want to know the services, not the stuff inside").
- ◊ *lack of privacy protection*: this includes the protection of personal information, and the security of electronic transactions.
- ◊ *cost of adaptive aids for disabled*: a few participants were disabled or had disabled family members. They noted the "huge cost" for aids for the disabled that are required to enable access (e.g. software that can cost $1,000).

Other barriers that were identified include concern or confusion about the quality of the information that is available ("Who is putting it there? There's a lot of false information"), the lack of human contact, language issues ("The language of the Internet is English"), concern about becoming dependent on computers ("This can be more time-consuming, if it's not working right"), and the lack of standardization (e.g. using different keys for the same functions).

In general, people tended to focus on barriers or obstacles to access, rather than on facilitators/enablers. Relatively few facilitators were identified, including:

- ◊ money
- ◊ interest
- ◊ computer skills
- ◊ companies requiring employees to use computers/the Internet
- ◊ schools

- ◊ libraries and other public/subsidized access points
- ◊ cyber-cafés

Specific Problems in Rural and Remote Areas

A number of access issues were raised as being unique to rural and remote areas, including:

- ◊ *cost*: people noted that the cost of setting up and maintaining an on-line computer is more in rural locations. This includes buying and updating a computer, servicing costs, phone costs, etc.
- ◊ *phone service*: in rural areas, the cost of putting in new or second phone lines is very expensive (e.g. $750-$1,000). This, more than ongoing service costs, was seen to be a barrier to access. Nevertheless, a number of participants in rural locations did note the higher monthly fees and service charges that they pay. To a lesser degree, this issue includes the type of phone equipment or lines (e.g. rotary phone, party lines). In some locations, it appears that telcos would not put in a second line (cost aside). As well, phone companies are closing local offices in rural locations (e.g. Cranbrook B.C.); this slows down phone repairs and increases the difficulties in ensuring quality phone service.
- ◊ *quality of regional ISPs*: in a number of rural areas (e.g. Cranbrook, Prince Albert, Bridgeport), the quality of local ISPs was seen to be relatively poor. Concerns included slow service and numerous busy signals when trying to gain access ("It's not as clean, easy or accessible as you'd like").
- ◊ *logistical problems*: it was noted that the logistics involved in purchasing and supporting computer use were more problematic in rural locations. This includes things like less selection in retail outlets, longer drives to get to a retailer, higher repair costs (e.g. they include mileage charges), longer delays in having repairs done, and reduced access to training.
- ◊ *location/public access points*: rural locations have fewer public access points, such as libraries or community centres, and they tend to be harder to get to (e.g. longer distance, poorer quality roads, etc.). There was also some concern that not all rural areas have ISPs, although the ones we visited did.
- ◊ *lack of resources for public access*: some participants felt that their local institutions (e.g. libraries, schools) do not have the same level of resources as 'like' organizations in larger cities to support computer purchases and on-line connections ("Our schools are less modern. They have less money").
- ◊ *different values*: in some rural areas, people may place less value on access to technology. For instance, people in Cranbrook noted that their's was a resource-based community, and that the community values reflect this ("The focus is on resources, not on technology").

Some participants stated clearly that rural areas should have the same degree of access as urban areas ("We have the same needs -- banks, food, educating our kids"). Rural participants are more likely than others to foresee a 'future' for the information highway that is satellite-based (i.e. wireless). When hearing people talk about it, this perspective appears to be directly related to the significant wiring problems/challenges associated with rural locations (satellites free them up from these constraints).

Opportunity for Access is Extremely Important

The opportunity for access was seen to be extremely important for Canadians. There was virtual unanimity on this point. However, people drew a distinction between *actual* access and the *opportunity* for access. Many felt that not everyone required or desired the former; that is, to have actual access to computers and related technologies: some would have no use for them. That said, people strongly felt that everyone should have the opportunity for access, to decide for themselves whether or not to access the services and technologies ("Access must be there, but then let people decide for themselves"; Like the road structure -- let them decide if they want to drive themselves or take the bus").

While the opportunity for access is seen to be very important, access does not have to be from the home. For almost all participants, access through public locations would suffice for those who cannot afford computers in the home.

Fear of Being Left Behind -- Main Reason Why Access is Important

Fear of being left behind was the reason cited most often to explain why it is important that everyone have access to computers and related technologies. This issue was raised using almost identical language across the country. There was a strong sense that people have little choice, that they must keep up or they will be left behind:

* *There's no choice in the matter, you have to do it or you'll fall behind.*
* *It's the way society is going. All the opportunities are linked to computers and technology.*
* *You won't be able to live without it. You could get by up to now, but you won't be able to in future.*
* *You need access. There are so many things that computers can do. They affect all aspects of life, even feeding cows.*
* *I'm not convinced, but I think so. Otherwise, you're losing out on knowledge.*

Related, overlapping reasons as to why access is important include:

- ◊ It *is* the future.
- ◊ Business uses these technologies so that makes them important, for jobs and to access services.

- ◊ The ability to earn a living will depend on computer skills. People will have access to more and better jobs.

While participants in both 'embracing' and 'resistant' groups felt that access was important, many of the latter offered reasons to explain why they do not now use computers:

- ◊ They could have access but are not interested in it. They couldn't be bothered.
- ◊ They do not have any need for access.
- ◊ They wish they could have access but claim they do not have any access.

Access Even More Important for Rural and Remote Areas

With few exceptions, rural participants felt that access was even more important for rural and remote areas. The reasons all have to do with their more remote location:

- ◊ Psychological: rural residents are already more isolated and remote than others. Access can help them feel part of 'mainstream' society.
- ◊ There is a need to "level the playing field", and this was seen as one way to do this (e.g. with on-line connections, Cranbrook residents can receive business bid requests from the *Vancouver Sun* on the same day as Vancouver residents, instead of a day later) ("Disseminate knowledge from centralized core of experts").
- ◊ Better access to public services and records (e.g. lands registry).
- ◊ An increased need for better access to a variety of services, such as education or medical services.

For some, on-line connections for rural areas was seen to be a form of geographic democratization.

Many Think They and Family Will Have Access Problems

Many participants, between one-third to one-half, believe that they and their families will have problems accessing the information highway. The main reason was cost (related mostly to buying a computer). This was particularly the reason why 'embracing' participants thought they would have access problems. This was followed by a lack of time, a lack of skills/knowledge, and perceptions that it is not easy to use.

Also mentioned were perceptions that a computer would divert attention away from other activities in the home, a lack of drive or interest, a lack of need, and concerns about controlling access to inappropriate material on the Internet (e.g. pornography; "We need something like the 'V chip' for the Internet").

Telephone -- The Only 'Essential Service'

The telephone was identified as the only type of information/communications service that should be considered an 'essential service' that all Canadians must have access to. This was directly related to its value as a tool in emergency situations.

No other services were seen to be essential. However, the opportunity for some form of access to the Internet/IH was seen to be essential in the future ("Computers not that essential yet that you have to have one"; "Internet, not now, but will be in the future"; "In future, computers will become essential, but they are not essential now"). As noted, however, for almost all participants access from a public location was deemed to be sufficient (see below).

Clearly, the public does not think in terms of essential services. This concept did not emerge spontaneously, and it was difficult, without examples, to direct the discussion. In fact, in some instances the phone was identified by the moderator as a possible 'essential service' simply to provide an example (when this was done, all agreed but could find no other suitable candidates). Some felt that, in future, access to the Internet might become an 'essential service'. The government should be cautious when using this terminology since it tends to lack meaning for almost everyone.

Mixed View about Market's Ability to Provide Access

Participants were mixed about whether the 'market' would provide sufficient opportunity for access on it own. Some felt that it would not, citing reasons that centred on the profit orientation of the private sector. Others, however, felt that the market would take care of providing access, especially as technology makes itself more affordable/accessible.

Representative comments include:

* *There will always be a segment that cannot afford it.*
* *The market will push the price down, so most will be able to afford it.*
* *You can't rely on the market. Companies are profit-oriented.*
* *The government needs to ensure that there is access through public locations.*

As such, some people saw a role for government to help fill in the gaps, to ensure the opportunity for access for all Canadians. As noted, however, most viewed access from a public location as being sufficient. Consequently, support for subsidies to provide for access from the home was very limited. This is not to say there would be no support for subsidies under certain circumstances where public access was not feasible (e.g. people with disabilities, residents in very remote areas). Rather, it suggests that in most instances access from the home was seen to be a 'luxury', not a requirement.

In general, the concept of subsidies is rejected by everyone for a number of reasons:

- ◊ public access is sufficient. There are options now (Internet cafés, schools, libraries)
- ◊ there is no money.
- ◊ a belief that cost arguments are overstated. People can buy cheap machines.
- ◊ a sense that people can get inexpensive access.
- ◊ that it is just a question of where priorities are.

Rather than pay subsidies to increase individuals' access, there was a clear preference for increasing the number of public access points. Locations that were identified for use as access points included:

- ◊ libraries (typically mentioned first and most often);
- ◊ schools
- ◊ community centres, recreation centres
- ◊ government buildings/offices (after hours)
- ◊ post offices (except these have mostly closed down in rural areas)
- ◊ shopping malls, other retail outlets
- ◊ employment agencies
- ◊ hospitals,
- ◊ ATM-type kiosks (i.e. dedicated machines); and
- ◊ anywhere that people gather.

In terms of access through public buildings, people focused on the need for expanded hours of operation to ensure that people have access during the evening after work. There was also a sense that such access should be free or low-cost. To some, public access also implies the availability of someone to help those who cannot properly use the equipment ("There will need to be a helper").

While communal access points were seen to be acceptable, numerous complaints were raised with them (e.g. kids in libraries making too much noise, community sites taking business away from those who offer access for a fee, etc.). It is worth noting that many people themselves did not appear to be comfortable accessing the Internet from public places.

Fear of Canada Becoming Country of Information 'Haves' & 'Have Nots'

A majority of participants across the country felt there is a danger of Canada becoming a country of information 'haves' and 'have nots'. Before we reached this point in the discussion, many had already voiced concern about the danger of Canada becoming a more stratified society. Indeed, many thought this was already occurring, and that it would get worse before it gets better. Many said they were concerned about this issue, and appeared to have given it some thought.

Concern was not unanimous, however. A minority felt that this danger was overstated. Reasons focused on their belief that: 1) access will be available in public locations (e.g. libraries); 2) technology costs are coming down and computers will be more affordable; and 3) the same occurred with phones and TVs when they first became available (i.e. not everyone had one), and this did not result in a greater split in society.

If Canada does become more stratified along these lines, the implications were seen to be significant:

1. an increase in the number of 'have nots': many felt the number of 'have nots' in society would increase if people did not have the opportunity to learn and use computer skills (and the good jobs that go with them);
2. a widening of the 'gap' between the 'haves' and 'have nots': many thought "the rich would get richer and the poor would get poorer";
3. longer term societal consequences, such as increased crime or social strife, if Canada becomes more segmented into "classes" of people;
4. possibly more discrimination (e.g. against businesses/people that do not use computers, are not on the Internet); and
5. more depopulation of rural areas: participants appeared to be divided on this point. Some felt the IH would help slow the outflow, while others thought it would contribute to it. For instance, there might be a greater centralization of services, as more people can do things (e.g. purchase goods) electronically. This could shut down stores in rural communities.

Those at greater risk of becoming information 'have nots' were seen to include low-income, less-educated people, and people living in rural locations (particularly isolated communities). Also mentioned were the unemployed and elderly.

The government was seen to have a role to help ensure that increased stratification does not occur by: 1) ensuring that the education system prepares all Canadian youth; 2) ensuring sufficient public access through public libraries, etc.; and 3) ensuring that rural areas are not disadvantaged as the IH comes on stream.

Representative comments include:

* *Yes, there is a real danger of that happening.*
* *The 'haves' will do better in many ways -- financially, jobs, education.*
* *It will widen the gulf between the 'haves' and 'have nots', and increase the number of 'have nots'.*
* *I see it happening now. Parents with money will give their kids a real advantage.*
* *The 'haves' will be better off still, and the 'have nots' will fall further behind. There could be greater strife as a result.*
* *It will get worse before it gets better.*
* *There already is an information underclass.*

* *Canada will not let that happen.*
* *It's just a tool. It depends on what you do with it. Soon everyone will have a computer. I see it as a temporary thing.*
* *It depends on access. If there is enough access, it won't happen.*
* *Yes and no. People can always go to schools and libraries.*
* *I don't see it. The cost of computers is coming down.*

Concern about Schools

Given the increasing importance of computers, many participants focused on the role of schools and the education system. Numerous concerns were raised, many of which focused on the uneven quality and coverage of computers at school. Concern was also expressed regarding the impact of computer use/learning on other aspects of school curriculum, and the level of knowledge students would have when they leave the system. People wanted to see balance in the educational approach, and feared that this would not be the case.

Concerns include:

- ◊ schools in rural areas having less funding and therefore fewer and less modern computers;
- ◊ even some schools in the urban centres (e.g. Toronto) were said to not have computers in classrooms;
- ◊ some schools have computers for all students, others have only a few that must be shared by many;
- ◊ some schools have modern computers, others have out-dated models and software (e.g. *DOS*, not *Windows*);
- ◊ these same comments apply to the existence/quality of on-line connections for students to use and learn from the Internet;
- ◊ teachers may not teach youth to *think*. Some felt that critical reasoning skills would suffer, as would the 'three Rs' (reading, writing, arithmetic). Students might focus on using the computer like a calculator, without knowing much about why, or how to work out problems on their own;
- ◊ interpersonal, social and communications skills might also suffer (linked to sitting in front of a computer for extended periods); and
- ◊ too much time in school might be allotted to computer learning. A few voiced the desire that computer training be allotted set time periods like other subjects such as history or English.

A few felt that we are "putting a burden on our children" because of the amount of information that is available and the skills required to access it. This, in turn, caused people to focus on the role of the education system to prepare Canada's youth. Comments include:

* *Computers should not take over the school system.*

* *The should integrate computers into schools and learning, but they should not concentrate on this.*
* *When funding comes, there is none for maintenance, teacher training, so the equipment is not used effectively.*
* *They're teaching kids how to use machines, but not teaching them logic, how to process thoughts, how to think for themselves, or interpersonal skills.*

TELEPHONE SERVICE ISSUES

This section explores attitudes about the phone service people receive, including views about the quality of service, whether it represents value for money, their understanding of the way in which prices are set, views about the cross-subsidization of phone rates, and the perceived impact of cost increases on affordability.

General Satisfaction With Current Phone Service

Mention telephone service and rates and the immediate point of discussion becomes long distance. Participants do not think of the basic residential service, and when they are forced to typically deem it to be essential, reliable, and fairly priced.

Most participants were very satisfied with the phone service they receive (basic service, not long distance). In fact, many quickly volunteered that the service was excellent. While numerous complaints were articulated, these were not of sufficient importance to undermine people's overall satisfaction.

Reasons for satisfaction include:

- ◊ reliable, uninterrupted service being the norm ("Excellent service"; "It works well"; "It's the most reliable of all communications tools");
- ◊ few complaints by any one individual (although collectively they add up);
- ◊ a valuing of the range of new services that are available;
- ◊ the quality of Canada's phone service relative to those in other countries ("All you have to do is travel abroad to know how good our phone service is"). Some clearly took pride in the quality of Canadian expertise in this area; and
- ◊ a sense that phone service has improved since the advent of competition (here the focus was on long distance).

Grievances include:

- ◊ increasing costs in recent years ("It's gone up quite a bit lately"; "The prices are getting out of control");
- ◊ the new add-on services: while some liked the features, others bemoaned the increased cost or the fact that some of the services could be accessed by kids in the family (which increased the cost of phone service without parents knowing about it);
- ◊ the closing of local telephone offices (e.g. Cranbrook, B.C.) which results in slower, less certain service;
- ◊ the cost of business lines being significantly higher than residential lines ("It costs four times as much for a business line");
- ◊ having to pay for directory assistance, when it used to be free; and
- ◊ a perceived lessening of service quality (e.g. more busy signals, waits for operators).

Overall, a large majority believe they get value for money from their phone service. A few thought that the basic service was expensive. Many subscribe to additional features, such as the answering service or call display.

As noted, people tended to view phone service as an essential service, not as a service like any others (but they were less comfortable applying the term 'right' to this service). In a number of the rural groups, participants knew of families that did not have phone service, though this obviously was not common.

Limited Awareness of Cross-Subsidization of Residential Phone Service

Participants were read a short explanation of the way in which residential phone rates have been cross-subsidized (i.e. by business and long distance rates). They were then asked whether or not they were aware of this fact. Approximately half indicated at least some degree of awareness of this price-setting approach (typically the broad outline only, not detailed knowledge); the rest were not aware of the model at all.

Strong Support for Cross-Subsidization 'Model'

Participants were strongly supportive of the cross-subsidization 'model'. This was true of both rural and urban (i.e. Toronto/Montreal) participants. This approach was seen to enable all Canadians, regardless of where they live, to have affordable service. The issue was generally perceived in terms of fairness:

* *A good idea.*
* *It's reasonable.*
* *If the system works, don't fix it.*
* *We're all getting the same service so we should pay the same.*
* *People in rural areas need it more, to get the services they need, and may earn less.*
* *As long as it's not someone's cottage we're subsidizing. People should not be able to pay less for a second home.*

Underlying this positive reaction was a sense that the cost of subsidization was not high.

Other observations include:

- ◊ even those aware of the pricing model had not given it much thought;
- ◊ the cross-subsidization model was seen to be beneficial in terms of nation-building, by supporting development across Canada through uniform phone rates;
- ◊ the only concern that people expressed about this approach was a fear that it "would go away";

- ◊ although not directly discussed, numerous participants expressed a dislike of a user-pay approach to pricing local phone service;
- ◊ some participants in rural areas linked long distance and local service. They felt that if the local phone company (e.g. SaskTel) lost too much of the long distance market, local phone rates would increase. This caused a number of people to stick with the local company;
- ◊ a number of rural participants questioned the cost difference to provide service in rural and urban areas. To some, it seemed unlikely that actual costs of providing service would be so different so as to require a wide discrepancy in pricing; and
- ◊ in general, there was significant confusion about telephone pricing policy, both for residential service and long distance (e.g. who owns the lines, how they share the lines, etc.).

Participants Lament Move to Cost-Based Pricing

Given the level of support for the cross-subsidization model, it's no surprise that people view the move away from this approach with regret. Once it was explained to them, people seemed to understand that this is required because of the increased competition in the long distance market. Nevertheless, it is not something they welcome. Rural residents in particular dislike the move to cost-based pricing since they would be most affected by it. For some, it was almost as if an acquired right is being taken away.

Participants did not identify benefits that would flow from a more cost-based approach (other than a few people noting that prices might come down for some, or increase less quickly). Concerns focused on:

- ◊ perceptions that this approach is not fair and does not treat people equally;
- ◊ the negative impact it would have on affordability;
- ◊ the degree to which prices will increase in rural areas; and
- ◊ perceptions that this might be the first step towards a user-pay approach to local service.

Comments include:

- * *It's punishing people who don't live in big cities.*
- * *I don't like this division into different classes of people.*
- * *There's a danger to universal access. Phones are now a luxury for some.*
- * *Some people won't be able to afford it, or it will be a bigger burden on them.*
- * *It's a key part of nation-building. They should not abandon smaller population centres.*

Impact of Increased Subscription Rates

Participants were told that subscription rates for residential phone service may double in rural or remote areas of the country. They were then asked about the impact of this. Understandably, most people disliked the thought of price increases of this magnitude. However, few rural participants said that they would discontinue their phone service (although some did say they might reduce the number of optional services they now purchase). The price increases were generally seen as causing hardship to some.

If the cost structure changes radically, some rural residents claim they will:

- ◊ punish the telco by going to another LD provider;
- ◊ hope for competition
- ◊ possibly join protest movements
- ◊ make greater use of e-mail and other forms of communication.

Most, however, would simply accept the increases and move on. Most people thought that few would discontinue their service (although a few felt that some would).

Comments include:

- * *It will cause hardship for some.*
- * *Some people will discontinue their service.*
- * *I can live with it, but I hate these cost increases.*
- * *It would definitely have an impact on affordability and access.*
- * *I would probably cut some of the extra phone services.*
- * *We're moving more to emergency-based health care, with hospitals closing down. We need phones now more than ever.*
- * *If it goes up like that, I'd expect better service.*
- * *I'd question why it was going up so much.*
- * *It has to happen. We can't expect others to pay for us.*

Other observations include:

- ◊ for some, phone companies do not have a good reputation. Consequently, they tend to distrust anything that telcos tell them, and are unlikely to be swayed by any argument; and
- ◊ when asked what rates were reasonably comparable between urban and rural areas, many felt that the rates should be identical, while some thought they should be close (e.g. 10-15%).

Most Think Rural Areas Receive Comparable Service to Cities

Most rural participants felt that the quality of phone service they received was the same as that provided in larger cities. This sentiment was quickly and widely volunteered.

However, upon further reflection a number of service areas were identified as being of lesser quality in more rural and remote areas, including:

- ◊ significantly smaller free call areas (i.e. area in which long distance charges are not applied);
- ◊ lower levels of servicing, such as closed local offices, longer waits for repairs, etc.;
- ◊ lesser service from Internet Service Providers, such as difficulties making a connection; and
- ◊ higher cost for putting in new phones lines (i.e. $400-$1,000).

FOCUS ON GOVERNMENT ROLE

This section explores attitudes about federal government involvement in this area, including the role of the government in the development of the information highway, awareness of current government activities, and perceptions about the provision of government information through electronic means.

Limited IH Role For Federal Government

Participants prefer a limited role for the federal government in relation to the IH. In fact, many were quite negative about any government role: they clearly indicated that they did not want government to control the IH ("Anything government touches turns to costly ashes"). There was a sense among many that there was not much that the government could do, in any event -- the market is progressing on its own, subject to greater forces than regulation.

Having said that, many others felt that the market, on its own, would not suffice. As such, a few basic roles for the federal government were identified -- that of watchdog, forward looking planner, protector of basic interests, and provider of access for those who cannot afford it. More specifically, roles that were cited include:

- ◊ regulation of content (e.g. helping get rid of dangerous or pornographic sites, blocking out unwanted material);
- ◊ ensure access through public locations (but not through subsidies);
- ◊ provide a plan or vision (e.g. understand/predict where we are going, ensure we use for nation-building). However, the government was not seen to have a good track record in this area;
- ◊ training and education (help ensure that Canadians have the skills they need);
- ◊ ensure affordable access in rural/remote areas (i.e. regulate costs if needed);
- ◊ provide access to its own programs and services;
- ◊ help ensure strong Canadian players in development of IH (e.g. through licensing, competition, etc.);
- ◊ help support development of infrastructure (e.g. ensure minimum standards, compatible hardware, minimal duplication);
- ◊ keep the public informed about developments; and
- ◊ ensure security of electronic commerce.

Representative comments include:

- * *It's important that they consider the whole country, not just the cities. Business will look after the cities -- Prince Albert resident.*
- * *You can't rely on the private sector only.*
- * *They can regulate the cost. Make sure there is no collusion. Don't leave it solely to big business.*

- *They don't need to help develop the highway, but they should focus on access.*
- *The government should be at arms length. I don't want them to control it.*
- *They can help provide access through government buildings.*
- *They need to be involved. They have to make rules and regulations about negative information like pornography.*
- *They should help minimize confusion, and provide for accountability. Set guidelines for the private sector, something like minimum standards.*
- *I don't see why the government has to be involved. They can monitor it, but they shouldn't develop it.*
- *They should encourage firms to provide access to all parts of the country.*
- *I don't see how they can have an impact. It's [the Internet] so vast already.*

No Awareness of Federal Activities Related to Access

Participants were unable to identify current government activities related to increasing access to new technologies such as the Internet. With rare exceptions, no activities -- federal or provincial -- were identified. The few that were cited include:

- ◊ schools-based initiatives ("They helped wire schools"; "They sent old computers to schools and NGOs");
- ◊ Sasktel putting telephones and computers on some Indian reserves; and
- ◊ job banks, etc. in employment offices.

Minimal Government Role for French-Language Content

Francophone participants did not see much of a role for the federal government in promoting the use of French on the Internet. A certain degree of fatalism was apparent in people's reactions vis-à-vis the inevitable predominance of English on the Internet. While many did feel that French content is likely to be a problem, most appear to find this, if not acceptable, at least understandable. There was a general sense that French was already in trouble before the Internet ("We're already isolated"). As such, the Internet is not seen to be a source of problems.

Observations include:

- ◊ there is a need to read and understand English to surf the Net, and this is unlikely to change;
- ◊ there are still many French sites on the Internet. As well, many sites have simultaneous translation available; and
- ◊ everything is changing and if there is a need to be bilingual, so be it ("We'll have to adapt).

The only clear role for the federal government is to ensure that French is used on its own websites. Other than that, there is some support for general promotion/facilitation of French-language content (although how this would be done is not clear).

Strong Support for Provision of Electronic Information by Governments

There was strong support for the provision of government information, such as health or labour market information, through electronic means. Most felt that this was appropriate and right-headed. Benefits include ease of access, the speed with which information can be obtained, the up-to-date nature of the information, and the low cost of this form of access.

However, a number of supports were seen to be needed to ensure that Canadians can access and use the information and services that governments make available in this way. First and foremost is the requirement that information continue to be provided in non-electronic form (at least during an extended 'transition' period).

Also cited were the need for:

- ◊ information that is written in clear, easy-to-understand language;
- ◊ informing Canadians about where they can obtain the information they need (i.e. minimize any 'run-around'). This might be done through provision of a directory of government Internet sites or by publishing one main government address as the principal access point (as long as it is easy for people to locate the information they would need once they get there!);
- ◊ the ability to communicate with government officials; and
- ◊ easy navigation (through Internet pages, through program types).

Representative comments:

- * *In future it's a good idea, but they're going too fast.*
- * *Educate people on how to use it.*
- * *They went into it too fast, especially for people who don't have a job and the less computer literate. They might be ahead of the population.*
- * *As long as there are enough public access points.*
- * *Develop a volunteer network to help people use the public access machines.*
- * *It's a good thing for those who have access.*
- * *They shouldn't provide only this type of information.*
- * *Make sure that people can communicate with government officials, not just get information.*
- * *Advertize so that people will know what is available and where.*

Most Favour Government Role in Providing Consumer Information

A clear majority favour a government role in the provision of consumer information, such a recalls or product and scam warnings. Most felt that this information coming from the government would be credible, although a few did not (these people were strongly cynical about government generally). Some also felt the government was too disorganized, not coordinated enough.

The type of consumer information that was seen to be most valuable was anything to do with health and safety, particularly anything related to children (e.g. safety of car seats). Other types of information seen to be valuable include:

- ◊ medical products/services/drugs
- ◊ survey results (e.g. car owners, etc.)
- ◊ defective products
- ◊ scams, especially those targeted at the elderly.

People favoured a multi-channel approach for the delivery of this type of information:

- ◊ the CBC, TV news, other programs
- ◊ the Internet, including a government website just for consumer information
- ◊ utility bills
- ◊ access by phone.

A few others were identified as having a role in this area, such as Better Business Bureaus, consumer groups, business associations, business research companies, and businesses themselves.

Final

Industry Canada
Information Highway Access Study

Moderator's Guide

WELCOME AND INTRODUCTION (5 MINS)

- introduce SK/COMPAS
- thank for attending, value your being here today
- explain purpose of focus group discussions:
    - gauge *opinions* about issues/products/services
    - okay to disagree; no right or wrong answers; speak up if you hold different view; interested in opinions/attitudes
- groups being conducted on behalf of Industry Canada, a federal government department. We want to explore issues related to some of the new technologies and communications services coming on stream. By new services, we mean both new ways of delivering and pricing old services and truly new services. We want to focus on access to these new services from the home.
- looking for candor and honesty; comments treated in confidence; reporting in aggregate form only where no individuals are identified; taping for note-taking purposes.
- any questions?
- roundtable introduction: please tell us your first name and something about yourself.

Perceived Impact of New Information Technologies (30 mins)

We live in a rapidly changing world. This is driven by many factors, including the fast pace of technological change. In your opinion, what are the most important information and communications technologies that are out there now, or soon will be?

Probe: - list important new technologies

How interested are you in these types of things (i.e. new technologies)? Why/why not? How important are they? What makes them important?

In what ways will these new technologies affect you and your community?

Probe:
- positive impacts/benefits
- negative impacts/concerns
- personal vs. community focus

Some people compare what's happening now, with computers, cell phones, satellite dishes, the Internet, and so on, with the *industrial revolution* in terms of its impact on the economy and society. They say we're in the midst of an *information revolution*, where society is being fundamentally transformed. What do you think, is this true? Why/why not?

What are the implications of Canada becoming a more information or knowledge-based economy?

Probe:
- positive and negative implications
- for the country
- for their community
- for themselves and family (kids)

What do you think are the main obstacles or barriers, if any, to participation in the new information-based economy?

Focus on Information Highway and New Services (15 mins)

When you hear the term "information highway", what does it mean to you?

Probe:
- what will it look like?
- what kinds of new services will be available?
- overlap with Internet
- when 'up and running'?

What new services would <u>you</u> like to receive through the information highway or related communications technologies? Why?

Focus on Access Issues (30 mins)

People sometimes talk about *access* to the new technologies or services, including the information highway. When you hear the term *access*, what does it mean to you? Why?

Probe:
- definition of access (different components)
- from where? (e.g. home, library, etc.)
- cost, training/education, other issues

How important is it that people have access to these new technologies and services? What makes it important/not important?

Probe:
- degree of importance
- reasons for importance (e.g. learning opportunities, economic development, access to Canadian content)
- importance for rural and remote areas

What are some of the main factors or issues that determine people's access to the new technologies and services, including the information highway?

Probe:
- cost, training, availability, etc.
- positive factors/enablers
- negative factors/barriers
- ask rural: specific problems/obstacles in rural/remote areas?

*Do you think that you and your family will have any problems having access to the information highway?

Are there any services that should be considered "essential services" that all Canadians should have access to? Why/why not?

Will the market take care of providing "essential services" for all Canadians? Why/why not? If not, are there any situations where subsidies would be acceptable to help people access "essential services"? Why/why not? If so, for whom?

Do you think there is a danger that Canada may become a country of information "haves" and "have nots"? Why/why not? *What are the implications of this? How concerned are you about this issue?

Telephone Service Issues (20 mins)

I'd like to switch for a moment to issues related to the telephone service you receive.

In general, how do you tend to view the telephone service you receive? By this, I mean the basic service you receive, not long distance. Is it a service like any other or is it different from most other services? Why do you say that?

Probe:
- how same/different from other services
- is it a right?
- value for money? why/why not?

(EXPLANATION OF CROSS-SUBSIDIZATION -- ATTACHED) Were you aware of this? What do you think about it?

Probe:
- awareness of cross-subsidization (HAND-COUNT)
- perceptions of cross-subsidization
- benefits/concerns

Canada is moving to more of a cost-based pricing system for telephone rates. This is where the rates that are charged are closer to the actual costs of providing that service. Do you think this is a good thing or a bad thing? Why?

Probe:
- agree/disagree; why?
- understand rationale for moving to higher local rates?
- awareness of change in pricing approach
- implications of move (views about who is at risk)
- benefits/concerns

ASK "RURAL":

How would you compare the quality of service you receive with the service provided to people who live in cities or smaller urban areas?

Over the next few years, subscription rates for basic telephone service may double in more rural or remote areas of the country, say from $15 to $25 or $30. What do you think if that were to happen here?

Probe:
- impact on accessibility/affordability
- any discontinue service?
- if pay more, want more choice? what choice?
- what rates reasonably comparable between urban/rural?

Government Role (20 mins)

How important is it that the federal government help develop the information highway? Why/why not? What is the appropriate role for the government? Why?

What should the federal government be doing, if anything, to ensure that all Canadians have affordable access to new communications services, such as the Internet and the information highway?

*Are you aware of any current government activities related to increasing the access of Canadians to the new technologies such as the Internet? If so, what do you know?

ASK TO FRENCH GROUPS:

How confident are you that there will be enough products and services available in the French language through the information highway? Why do you say that? Does the federal government have a role in ensuring adequate French-language content? If so, what role should they play?

Canadian governments will increasingly provide information, such as health or labour market information, through electronic means. What do you think about this? What kind of help should governments provide, if any, to ensure that Canadians can access and use the information and services they make available in this way?

Does the federal government have a role to play in providing consumers with 'consumer' information (ENSURE PARTICIPANTS UNDERSTAND WHAT IS MEANT BY CONSUMER INFORMATION -- ATTACHED)? Why/why not?

Probe:
- credibility of fed. gvt. for this info
- preferred type of information
- preferred delivery means
- if no role, who should do it?

Conclusion

Do you have any last comments or ideas about any of the issues we have been talking about this evening?

Thank you for your participation.

Final

Industry Canada Information Highway Study
Background/Quota Sheet

- 12 focus groups with the general public -- urban and "rural" locations
  - 2 Toronto (Urban)
  - 2 Montreal (Urban)
  - 2 Cranbrook, B.C. (Rural)
  - 2 Prince Albert, Sask. (Rural)
  - 2 Jonquière, Quebec (Rural)
  - 2 Bridgewater, N.S. (Rural)
-
- all groups -- recruit 12 for 8-10 to show.
- participants to be paid $55.
- one-third of participants in rural areas to be drawn from surrounding area
- each city to have:
  - ⇒ Group 1--Technologically sophisticated: all very interested in IT, at least half make regular use of a computer. [FOR RURAL GROUPS: all say very important for rural/remote communities to have access to IT; no CAP involvement].
  - ⇒ Group 2 --Technologically less sophisticated: less interested in IT, occasional use or no use of a computer. [FOR RURAL GROUPS: less important for rural/remote communities to have access to IT; no CAP involvement]
  - ⇒ good mix by by age, education; gender (approximate 50/50 split).

Industry Canada Information Technology Study
Recruitment Screener

Hello, my name is _____. I'm with COMPAS, a public opinion research company. We've been commissioned by Industry Canada, a federal government department, to explore current issues among the general public.

To undertake this research, we will be holding a series of group discussions. Each group will last no longer than two hours and will be held during evening hours. Participants will be paid $55 for their time, and refreshments will be served. Your participation is entirely voluntary, and participants' responses will be treated in complete confidence. Would you be willing to take part in a group discussion?

Yes	1	
No	2	(THANK & DISCONTINUE)

I have a few questions to see if you qualify for the group.

1. Generally speaking, would you say you are very interested, somewhat interested, not very interested or not at all interested in new information technologies like the Internet and the information highway?

Very interested	Group 1	
Somewhat interested	Group 2	
Not very interested	Group 2	MAX 3 PER GP
Not at all interested	Group 2	MAX 3 PER GP

ASK Q2 and Q3 FOR "RURAL" GROUPS ONLY:

2. In your opinion, how important is it for rural and remote communities to have access to the latest in information technology such as the Internet? Would you say it is very important, somewhat important, not too important, or not at all important?

Very important	Group 1	
Somewhat important	Group 2	
Not too important	Group 2	MAX 3 PER GP
Not at all important	Group 2	MAX 3 PER GP

3. The federal government has established a program to help rural and remote communities get connected to the Internet. The program is called the Community Access Program or CAP. Are you now or have you been directly involved with the CAP program on behalf of your community?

Yes	Terminate
No	Continue

4. Do you use a personal computer on a regular basis, say 3-4 times a week or more?

Yes, regular use	Group 1	AT LEAST 6 PER GP
Yes, occasional use	Group 2	MAX 6 PER GP
Never used	Group 2	

5. Do you currently own or subscribe to any of the following equipment or services for home use? (READ LIST; **RECORD ALL INFORMATION**)

Personal computer (PC)	1
On-line/the Internet	2
Cellular phone	3
Satellite dish	4
Cable	5
None of the above	6

ASK Q6 FOR RURAL GROUPS ONLY:

6. Do you live in (FILL IN CITY NAME), a drive of 30-45 minutes outside of (CITY NAME), or beyond that?

Within city	1	
30-45 minutes	2	4 PER GP
Beyond	3	TERMINATE

7. Have you ever attended an interview or discussion group which was arranged in advance and for which you received a small sum of money?

Yes	1
No (Go to Question 10)	2

8. When did you last attend one of these discussion groups?

LESS THAN 12 MONTHS AGO	1	(THANK/TERMINATE)
OVER 12 MONTHS AGO	2	

9. Have you attended more than five discussion groups in your lifetime?

Yes	1	(THANK/TERMINATE)
No	2	

10. Do you, or does any member of your household or immediate family, work in any of the following fields? (READ LIST)

ADVERTISING
MARKET RESEARCH
THE MEDIA (radio, television, newspapers, magazines etc.)
THE FEDERAL GOVERNMENT

[ ] Yes (TERMINATE)
[ ] No (CONTINUE)

11. What is the highest level of education you have completed? (READ LIST IF NECESSARY/**WANT GOOD MIX**)

Public school or less	1
Some high school	2
Graduated high school	3
Some college/university	4
Graduated college/university	5

12. Please tell me which of the following age categories you fall into... (READ LIST/ **WANT GOOD MIX**)

under 18 years	1	TERMINATE
18-24 years	2	
25-34 years	3	
35-44 years	4	
45-54 years	5	
55-59 years	6	
Over 60 years	7	TERMINATE

BY OBSERVATION

- GENDER

Male	1	(WATCH QUOTAS)
Female	2	(WATCH QUOTAS)

The group discussion will take place on ____, ____, at 6:00/8:00 pm. Would you be willing to attend?

Yes	1	
No	2	(THANK & DISCONTINUE)

Do you have a pen handy so that I can give you the address where the group will be held. It will be held at_____. I would like to remind you that the session you will be attending is at 6:00/8:00 pm on ____, _____. We ask that you arrive fifteen minutes early.

As we are only inviting a small number of people to attend, your participation is very important to us. If for some reason you are unable to attend, please call so that we may get someone to replace you. You can reach us at _____ at our office. Please ask for____. Someone will call you the day before to remind you about the discussion. We look forward to seeing you.

Could I please confirm your name, address and telephone number?

****

RESPONDENT'S NAME: _____

PHONE #: HOME _____

GROUP TIME/LOCATION: _____

_____

Thank you.