

# **Beyond Broadband Access: What Do We Need to Measure, and How Do We Measure It?**

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# Two Starting Points

1. “Broadband is a key enabler of the information society, increasing productivity and competitiveness across all sectors of the economy.” *Broadband in Europe: How Brussels Can Wire the Information Society.*

## 2. Canadian Internet Use Survey data (~69% of pop.):

	2005	2007
High intensity user (online daily and for 5 or more hours per week)	42.2	44.6
Low intensity user (online less than 5 hours per week and not online every day)	57.3	54.8

## ... and a Nagging Question

- How can we better understand the “broadband as an enabler of the information society” discourse?

### *Assumptions driving this research:*

- it is important to understand how broadband connectivity can benefit individuals, improving quality of life, social and economic outcomes etc.
- If we understand this, we can get more value from investments in broadband, and enable/encourage more people to engage in the information society

# Rhetoric (or received wisdom?)

- *“Providing citizens with access to broadband connectivity will allow them to engage in the information society”*
- **3 problematic aspects to the statement:**
  - i) access to broadband does not ensure that broadband is used, or that it is useful for the user (access  $\neq$  use)
  - ii) all broadband networks are not the same, meaning that the potential benefits of broadband access may not be equal for all broadband users (broadband  $\neq$  broadband)
  - iii) there is uncertainty as to exactly how to recognize the broadband-enabled benefits of engagement in the information society (the information society is hard to grasp)

All Broadband Connections are Not  
the Same: The Definition of  
Broadband Matters

**PM announces major improvement to broadband internet access in rural Canada**

30 July 2009  
Adstock, Quebec



The potential benefits of expanded broadband services are enormous. The jobs of the future will increasingly depend on people having consistent and reliable access to broadband services such as distance education, telehealth coverage and new online business opportunities.”

High speed broadband is increasingly essential to the way Australians communicate, and do business. It will help drive Australia's productivity, improve education and health service delivery and connect our big cities and regional centres.



Kevin Rudd: 'Superfast national broadband network is the most ambitious, far-reaching infrastructure project undertaken by an Australian government.' Photograph: Adek Berry/AFP/Getty Images

The Australian government today launched an ambitious plan to make [Australia](#) one of the world's most wired countries in a massive project to extend [broadband internet](#) access across the country.

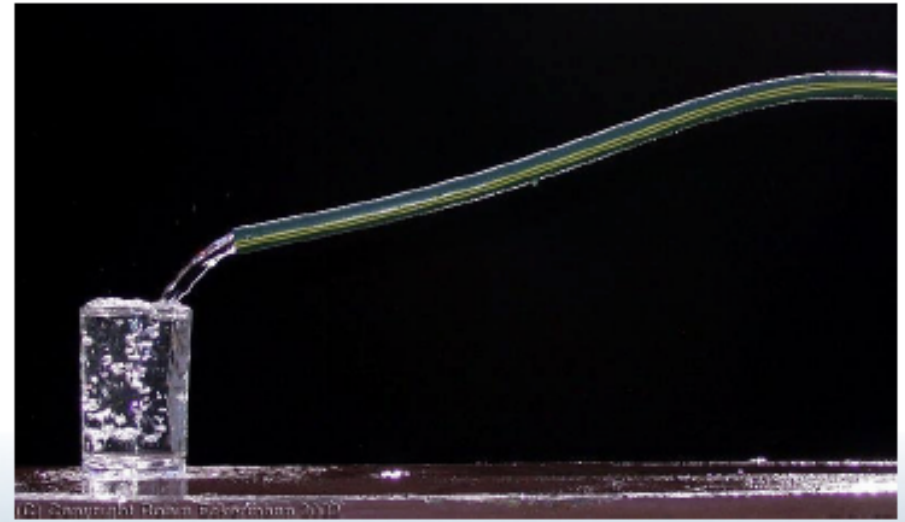
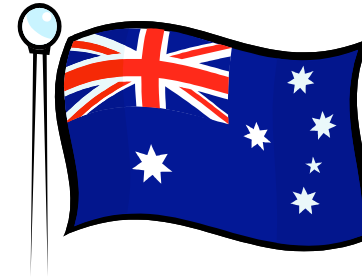
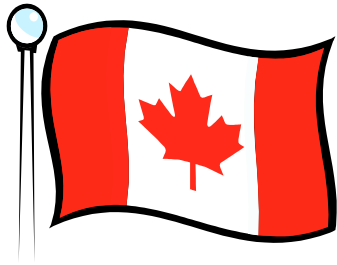
But...

all broadband  
announcements are not  
created equal





1.5 Mbps services to  
remote and rural areas



Graphics by Robin Eckermann

1.5 Mbps services to  
remote and rural areas

100 Mbps FTTP, 10 Mbps  
wireless to remote and  
rural areas

# Household\* Broadband Profiles

Characteristic	Information Required
Speed	<ul style="list-style-type: none"><li>• What are the advertised upload and download speeds?</li><li>• What are the actual upload and download speeds?</li></ul>

Is your connection a broadband connection?  
(yes/no)

How fast is your connection?

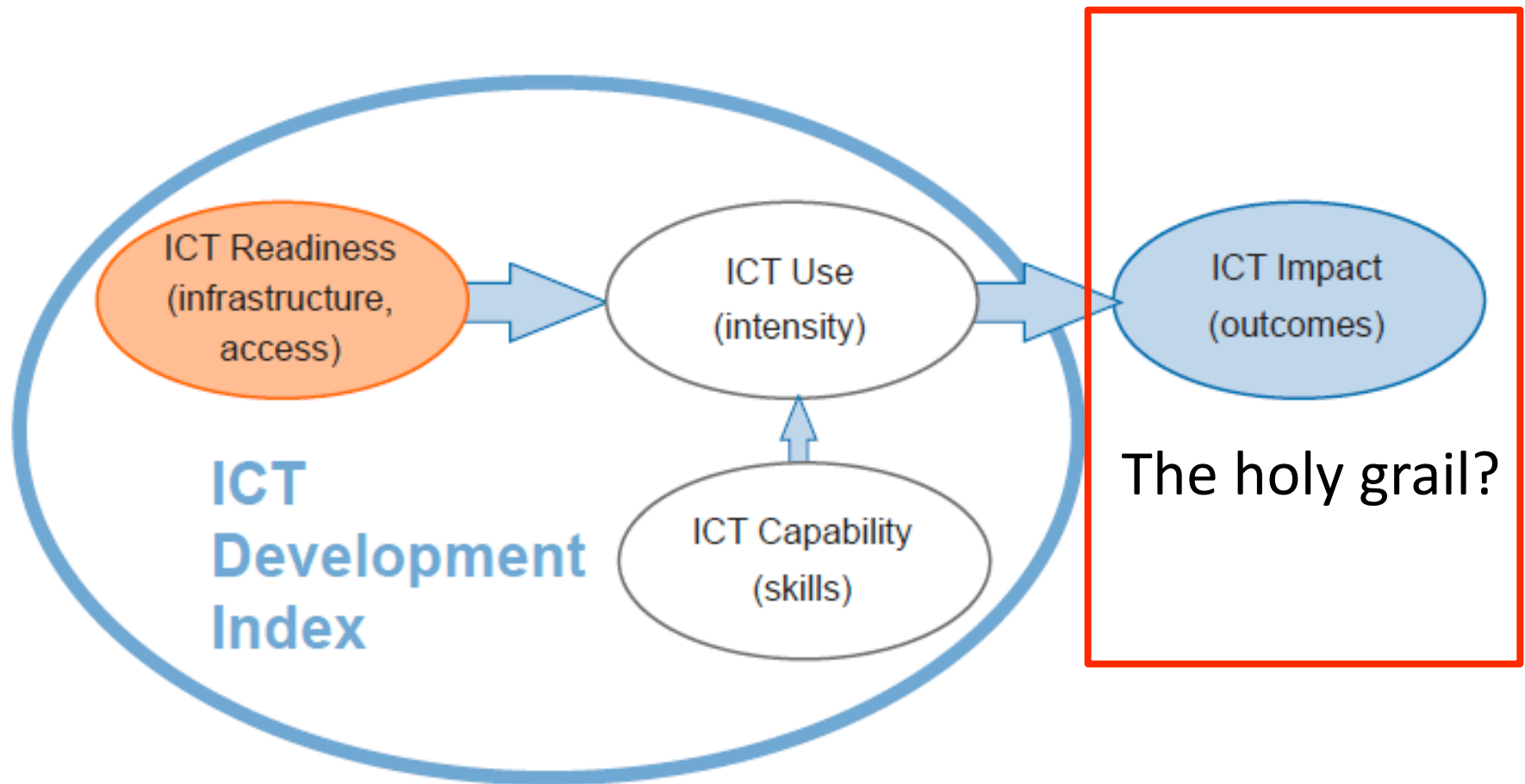
Service	types of traffic? Does such prioritization meet user and application provider needs?
Service provider	<ul style="list-style-type: none"><li>• Do service providers' policies (e.g. with respect to traffic shaping, or download caps) negatively impact the user's experience?</li><li>• Is the connection affordable?</li></ul>

# Household\* Broadband Profiles

Characteristic	Information Required
Speed	<ul style="list-style-type: none"><li>• What are the advertised upload and download speeds?</li><li>• What are the actual upload and download speeds?</li><li>• Do these speeds support all the applications citizens want to use?</li></ul>
Type of connection	<ul style="list-style-type: none"><li>• What is the access technology (or technologies) in use?</li><li>• Are there technical limitations imposed by the type(s) of connection in use? (e.g. will a wireless connection support all necessary applications)</li><li>• Is the connection upgradable to meet demands for increased bandwidth?</li></ul>
Quality of service	<ul style="list-style-type: none"><li>• Does the network provider allow for prioritization of specific types of traffic? Does such prioritization meet user and application provider needs?</li></ul>
Service provider	<ul style="list-style-type: none"><li>• Do service providers' policies (e.g. with respect to traffic shaping, or download caps) negatively impact the user's experience?</li><li>• Is the connection affordable?</li></ul>

Adoption/Penetration/Access  
≠ Use

# Readiness/Use/Impact Model



# Available Data?

- International indicators (e.g. ITU's ICT Development Index, World Economic Forum/INSEAD's Networked Readiness Index) measure *readiness*, not *use*
  - Connectivity Scorecard is moving in the right direction
- Other sources are i) national statistical agencies; ii) NGOs and academics (e.g. Pew Internet Project, WIP); iii) private sector

# Making Do With What We've Got

- “the public bureaucracies that collect data and generate statistics, which are widely used, are inherently conservative and slow to employ new methodologies that might provoke criticism” (2007 PIP on Measuring Broadband)

Example -- Statistics Canada CIUS → Derived usage measures:

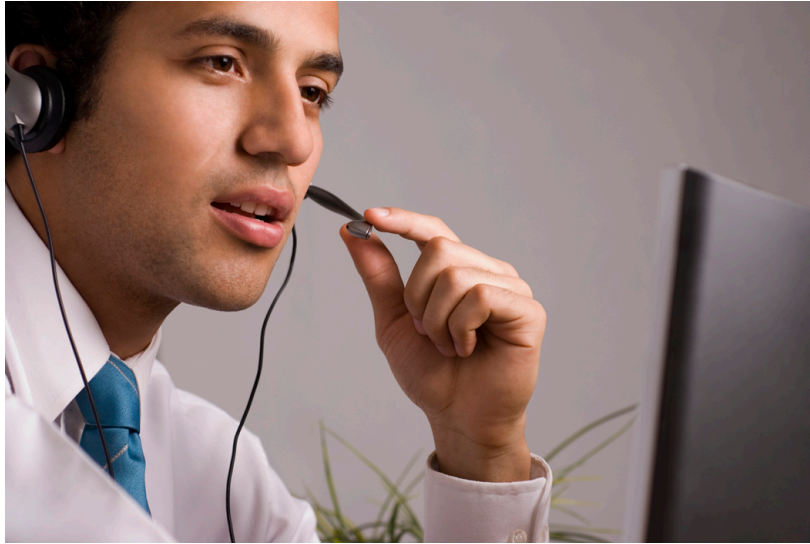
- Intensity: 45% HI; 55% LI
- Scope: Email, browsing > 50% of pop.
- Speed \* intensity: 42% HSp/HI; 46% HSp/LI
- Engagement: 33% HSc/HI; 36% LSc, LI

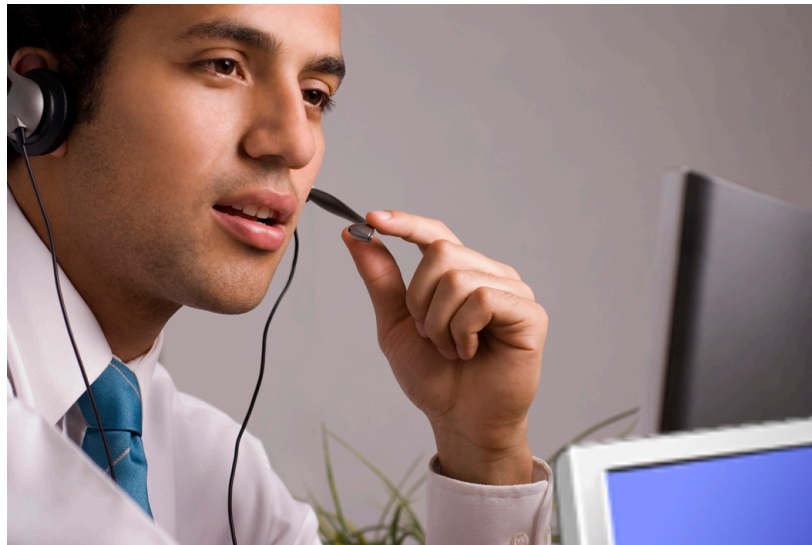


# Using Broadband to Participate in the Information Society

# How do we know an information society when we see one?

- “a society in which low-cost information and ICT are in general use”
- “a future Information Society is one in which Information and Communication Technologies (ICTs) are available anywhere, anytime and to anyone”





Egov, ehealth,  
elearning,  
ecommerce vs.(?)  
YouTube, bittorrent  
and HDTV?



- Macroeconomic studies on the benefits of broadband don't provide insights into how individuals can become more engaged with the information society
- Available data tend to be of the yes/no variety (did you do the following activities online...), and insufficient to articulate the link between broadband/internet use and beneficial outcomes
- Lots of red herrings (e.g. HDTV)



# What we need to know:

Characteristic	Information Required
Network uses	<ul style="list-style-type: none"><li>• Do citizens access services that enable them to participate in the information society?</li><li>• Do citizens accrue benefits from the use of such services? How? What skills are needed to ensure maximum benefit?</li></ul>

- Intensive research methodologies, observational approaches, user-centric models of data collection

# Conclusion

- Just scratching the surface on what we should understand about broadband *use* and information society outcomes (*impacts*)
- Improving data collection requires time, money, expertise but will be very beneficial in terms of reducing digital divide, increasing citizen engagement etc.
- Team efforts/collaboration will be central
- Don't forget about mobile devices