Disrupting policy with vision and action to deliver broadband to under-served rural communities
A Manitoba case study

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About Rural Development Institute

**Mission**
- To use research, policy, and practices to assist rural areas to reach their potential with partners from government, businesses, and others
- Support rural research networks

**Mandate**
- Use applied research to inform decisions
- co-create and disseminate knowledge
- grow rural researchers

**Organization**
- 20 years of applied research
- 14+ research affiliates, 5 FTE, 4 project managers, 4 grad researchers
- project funding, community-based

www.bandonu.ca/rdi/
Disrupting policy

• Vision: Rural broadband is possible – P3
• Action: Crafted network solution & skills/knowledge

Overview

• What is known?
• What is missing?
• What is proposed?
• What are next steps?
What is known?

- Coverage varies (cell phone)
- Rural gaps – dynamic situation
- Providers narrowing rural gap (ISPs)
- Economic impacts
- Return on investment
  - connecting Canadians (rural analysis needed)
What is known? Coverage varies

Basic coverage
What is known? Coverage varies

3G

Source: Bell
What is known? Coverage varies

4G 21 Mbps (future extension)

Source: Bell
What is known? Coverage varies

4G 42 Mbps  Future extension

Source: Bell
What is known? Rural gaps

- Waterways, railways, roadways, info-hwy
- $3.27B govt invested since 2000 (MTS 2010)
- 2.1 M rural households in high cost-serving area (CRTC 2010)

- CRTC approach (2011)
  - Market forces
  - Govt subsidy
  - 2017 @ 5Mbps = aspirational goal

OVUM: “The Benefit of the Wireless Telecommunications Industry to the Canadian Economy” April 2011
1.5 Mbps broadband in Canada

Trend line: *Minimum* 1.5 Mbps availability in rural areas may not reach 90% by 2017

(CRTC Annual Monitoring Reports 2004 to 2011, excludes Hi Speed Packet Access)
What is known? Narrow gap

NetSet
Eastman, Lac du Bonnet, Carman, Brandon Area, Portage la Prairie, West Interlake/Gypsumville, Western, Swan River, Dauphin, Flin Flon, The Pas

Xplornet
Approach:
Local leaders, Local techn, Local pre-paid anchor + subscribers

(S. Toderash, NetSet)

4G Satellite Coverage in Manitoba
What is known? Narrow gap

RFNOW Inc.
Insurance broker wanting internet
Feb 2012-160km fibre, 1000 clients

BCN
Serving 51 Communities

Approach:
- Local leaders,
- Local techn,
- Local anchor
+ subscribers

S. Andrews CEO
What is known? Narrow gap

- 10G network
- 28 communities connected
- (14 Hutterite colonies)
- Data networking
- E-business applications, VoIP
- CAD, Financial, Medical Imaging
What is know? Narrow gap

- Alberta’s Supernet
- $300m, essential utility
  - Goal: 98% HH connected
  - Rural centres with an anchor (school, hospital, library, justice, govt office) + last mile by market - ISPs
  - Challenge: last mile expensive
  - Response: emphasize access
What is known? Economic

- Different impact levels
  - Global, national, urban, centred regional

- BB accelerates innovation
  - New services
  - Improves productivity
  - Attracts employment

- Impacts concentrated
  - Health, schools, justice, financial, manufacturing

- Positive impacts after 4 yrs in businesses with training/learning program

- An increase business penetration of 5-6% means .6-1.8% job growth

(Katz 2009)
What do we know? Economic

Economic impacts

- Construction (direct)
- New jobs (indirect)
- Secondary (induced)

Economic multipliers (Jobs)

1.38 – 1.83
1.93 – 3.42

Katz 2009: Greenstein & McDevitt 2011

Figure 6. Conceptual view of comparative broadband regional effects

• High economic growth initially, diminishing over time (“supply shock” effect)
• New Economic Growth (innovation, new services)

• High stable economic growth (“catch up” effect)
• Capital/labor substitution limits employment growth (“productivity effect”)
What is known? Economic

**South Dundas, ON**
- 10,500 population
- Invest $1.3M into fibre
- 62.5 new jobs
- $2.8M bus. expansion
- $140k additional rev
- $7.9M Prov taxes
- $4.5M Fed taxes

*Katz 2009*

**Eastern ON Network**
- Underserved area
- Invest $170M fibre
- Govts ($110M), Local ($10M), ISPs ($50M)
- Revenue sharing (7 yrs)

*(Rural Ontario Institute 2012)*
What is known? 7 factors key

ROI of connecting Canadians

• Increases productivity
• Creates new jobs and opportunities
• Generates new investments
• Enhances our social lives
• Connects families and friends
• Makes communities safer

Source: Bernard Lord, Pres. cwta 2012

Use of BB is a function of: age, education, income, family size
(Horrigan 2010)
What is known? summary

• Rural BB coverage is improving
• Still digital gaps (10%)
• ISPs, big and small, are narrowing rural gap
• BB drives innovation, jobs, revenues
• Multiple yrs of impact possible, learning program key
• Economic impact, missed opportunity
• ROI built around 7 factors (B. Lord)

...BUT What is missing?
• A vision and practical approach?
• **Vision**: bring broadband to under-served rural MB areas, one after another
• 463 rural centres & RMs
• 420 connected

21,728 pop. (147-2493)
FN pop. 7865 (x8)
<table>
<thead>
<tr>
<th>MB Communities without Broadband</th>
<th>Pop. 2011</th>
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<tbody>
<tr>
<td>1 ARGYLE (1,073)</td>
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<tr>
<td>2 BADEN (Part of Division No. 19)</td>
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<tr>
<td>3 BALMORAL (Part of Rockwood; 7,692)</td>
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<tr>
<td>4 BARROWS (no data)</td>
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<tr>
<td>5 BIG BLACK RIVER (Part of Division No. 19)</td>
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<td>6 BISSETT (Part of Division No. 19)</td>
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<td>7 BROCHET <strong>FN</strong> (306)</td>
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<td>8 CLEARWATER LAKE (Part of Division No. 21)</td>
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<td>9 CORMORANT (Part of Division No. 21)</td>
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<td>10 DAWSON BAY (Part of Division No. 19)</td>
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<td>11 ETHELBERT RM (383)</td>
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<tr>
<td>12 FALCON LAKE (Part of Division No. 1)</td>
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<tr>
<td>13 FISHER BAY (Part of Division No. 19)</td>
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<tr>
<td>14 GILLAM (1,209)</td>
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<tr>
<td>15 GRAND RAPIDS (336) / GRAND RAPIDS <strong>FN</strong> (651)</td>
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<td>16 GUNTON (Part of Rockwood; 7,692)</td>
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<td>17 HERB LAKE LANDING (no data)</td>
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<td>18 HOMEBROOK (Part of Division No. 19)</td>
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<tr>
<td>19 ISLAND LAKE (Part of Wasagamack <strong>FN</strong>; 1,160)</td>
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<tr>
<td>20 KELSEY (CARROT VALLEY) RM (2,453)</td>
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<tr>
<td>21 KELSEY (WANLESS) RM (Merged with Carrot Valley)</td>
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<tr>
<td>22 LITTLE GRAND RAPIDS <strong>FN</strong> (796)</td>
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<td>23 LOON STRAITS (Part of Division No. 19)</td>
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<tr>
<td>24 MOUNTAIN (SOUTH) RM (570)</td>
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<td>25 MYSTERY LAKE LGD (147)</td>
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<td>26 NATIONAL MILLS (Part of Division No. 19)</td>
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<tr>
<td>27 OPASKWAYAK CREE <strong>FN</strong> (2,578)</td>
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<td>28 OXFORD HOUSE <strong>FN</strong> (1,947)</td>
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<td>29 PELICAN RAPIDS <strong>FN</strong> (Part of Division No. 19)</td>
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<td>30 PIKWITONEI (Part of Division No. 22)</td>
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<td>31 POINTE DU BOIS (Part of Division No. 1)</td>
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<td>32 POPLARVILLE (Part of Division No. 19)</td>
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<td>33 POWELL (Part of Division No. 19)</td>
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<td>34 RED DEER LAKE (Part of Division No. 19)</td>
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<td>35 SALT POINT (Part of Division No. 19)</td>
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<td>36 SHERRIDON (Part of Division No. 21)</td>
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<td>37 STEVENSON ISLAND (no data)</td>
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<tr>
<td>38 VALLEY RIVER <strong>FN</strong> (427)</td>
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<td>39 WEST HAWK LAKE (Part of Division No. 1)</td>
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<tr>
<td>40 WESTGATE (Part of Division No. 19)</td>
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Integrated Action Framework
Connecting under-served communities

What is proposed?

Leaders – Regional

Access

Leaders – Providers

Strategic impact with social marketing

Users

Leaders – local & technical

Uses
What is proposed? Social marketing

- **Goal**: modify behaviours toward a goal (seat belts, not smoking)
- Engage specific grps
- Build critical mass
- Longer term 3-5 yrs
- Learning along the way
- 3 Soc.marketing projects
  - 9000 MB beef producers
  - Global conference 2013
  - Water conservation
What is missing?

Access
- Provider(s)
- Speed Mbps?
- Install groups
- Benchmarks

User skills
- Training
- Impact examples

Leaders
- Regional support
- Local support
- Tech support
- Action plan

Uses
- Baseline of 40+
- Business case
- Social marketing framework
What are next steps?

Next steps

• Inventory govt anchors
• State requirements for 1st install group
• Partners & funding
  – Start up project
  – Researcher-in-residence
Thank you

Questions, comments, & discussions