BROADBAND ADVISORY COUNCIL
MEETING AGENDA

• Call to Order
• Introductory Remarks from the Chair
• Approval of Minutes
• Office of Broadband Updates
  o Grant Programs
  o Partnerships
  o Mapping
• Approach to Broadband Affordability Study
  o John Horrigan, PhD | Senior Fellow, Technology Policy Institute
  o Colin Rhinesmith, PhD | Associate Professor, Simmons University
  o Brian Whitacre, PhD | Professor, Oklahoma State University
• Public Comment
• Next Meeting – February 17, 2021 (tentative)
Governor Pritzker is committed to establishing Illinois as a leader when it comes to technology and innovation. Access to broadband is a critical component of staying ahead of the curve and will improve the lives of families, entrepreneurs, farmers and other Illinoisans who rely on high-speed broadband for everything from healthcare to education.
Governor Pritzker launched a statewide initiative in August 2019, Connect Illinois, to expand broadband access across the entire state. Connect Illinois includes a capital investment from Rebuild Illinois, the creation of a Broadband Advisory Council and Broadband Office, and a new program that will provide all Illinois public K-12 students access to high-speed broadband at no charge. The initiative also includes a $400 million broadband grant program and a $20 million capital program for the Illinois Century Network, a high-speed broadband network serving K-12 and higher education institutions, among others.

The first round of funding was announced in June 2020. Please see more information on the announcement.

For more information on the Connect Illinois launch, click here.

**Illinois Broadband Grant Program**

Rebuild Illinois, the Illinois infrastructure program, includes $400 million to the Department of Commerce and Economic Opportunity for a statewide broadband deployment grant program. This appropriation will begin to expand access to reliable, high-speed internet service statewide. According to the USDA, fully utilizing digital technologies within the agriculture industry could create approximately $47 to $65 billion annually in additional gross benefit for the U.S. economy.

**Illinois Century Network**
Research Team:
• John Horrigan, PhD
  Senior Fellow, Technology Policy Institute
• Colin Rhinesmith, PhD
  Associate Professor, Simmons University
• Brian Whitacre, PhD
  Professor, Oklahoma State University
Infrastructure
• Connect Illinois Broadband Grant Program (Rd 2)

Digital Equity
• Digital Navigator Program
• Broadband READY Grant Program
• Illinois Connected Communities (Rd 2)
• Illinois General Assembly (SB 2135), May 2020
• In pursuit of universal broadband access goal, study:
  • Free access to all residents through grant program expansion
  • Affordable access to all residents
• Study must include analysis of universal access in areas of poverty and areas where existing broadband infrastructure is insufficient for high-speed access
  • Should include discussion of Broadband Strategic Plan initiatives
  • Identify new streams of state, federal, and P3 revenue
  • Recommended schedule for implementation
• Report on findings and recommendations due Jan 1, 2021
• Data sources:
  • 2019 American Community Survey

• Metrics:
  • Wireline broadband subscriptions at home
  • Computer ownership (either laptop or desktop)
  • Access to either a computer or a tablet device

• Focus of analysis:
  • Adoption across Illinois’ 10 economic development regions
  • Socio-economic factors, i.e., income, race/ethnicity, age, education, households with children under 18
BROADBAND AFFORDABILITY STUDY
KEY FINDINGS: ADOPTION

• 70.4% of Illinois households subscribe to wireline high-speed internet service
  o This means that approximately 1.4 million Illinois households do not subscribe such service
• 77.0% of households have a desktop or laptop computer
  o This means about 1.1 million Illinois households lack computers of this sort
• 82.6% of Illinois households have either a computer (desktop or laptop) or a tablet computer
  o That comes to some 847,000 households without any of those devices
BROADBAND AFFORDABILITY STUDY
KEY FINDINGS: ADOPTION

• In economic development district 4 (Northeast), 74.7% of households subscribe to broadband—compared with 61.9% elsewhere in state.
  • Southern region (8) has a 47.0% home subscription rate.
  • The Southeastern region (7) has a 57.5% subscription rate.

• Other notable data points:
  • 44.4% of low-income household subscribe to home wireline service
  • 55.7% of those age 65 and older have wireline subscriptions
  • 57.9% of African American households subscribe to broadband
  • 63.4% of Latino households have home wireline subscriptions
  • 79.8% of households with children have wireline service
    • That’s a “homework gap” of 285,000 Illinois households.

• Income a factor for rural and non-rural Illinois residents:
  • 44.6% of metro low-income residents do not subscribe
  • 43.5% of rural Illinois households do not subscribe to home wireline service
• Estimating cost of free universal broadband (short-term)
  • Group all IL households into 4 categories (2019 ACS data): 4.866M households
    • Connected, with Device (CD) 72%
    • Device Deficient (DD) 4%
    • Internet Insufficient (II) 10%
    • Fully Disconnected (FD) 14%
  • Estimate cost of connecting each group
    • Market rate broadband service for CD
    • Device / connectivity options for DD, II, FD
  • Low / high range for each (annual costs)
  • Also broken into estimates for 10 Economic Development regions

Short-term solution: Hotspots, devices provided to households lacking access
Short-term Free Broadband for those lacking device or connection

<table>
<thead>
<tr>
<th>Internet Insufficient (II)</th>
<th>Device Deficient (DD)</th>
<th>Fully Disconnected (FD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Access considerations</td>
<td>No access to fixed or cellular</td>
<td>Access to fixed</td>
</tr>
<tr>
<td>Device options</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Connectivity options</td>
<td>Satellite</td>
<td>Cellular data</td>
</tr>
<tr>
<td>Other hardware</td>
<td>Dish, install</td>
<td>Hotspot device</td>
</tr>
<tr>
<td>Cost/HH</td>
<td>$850 - $1,075</td>
<td>$250 - $300</td>
</tr>
</tbody>
</table>

- Range based on costs to provide devices / connections (will vary by provider & region)

Methodology based on Common Sense Media Digital Divide Report (2020)
Short-term Free Broadband for ALL IL Households (Annual Cost)

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Households (2019)</th>
<th>Cost of Free Access</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Low Estimate ($M)</td>
</tr>
<tr>
<td>Fully Disconnected (FD)</td>
<td>668,599</td>
<td>263.7</td>
</tr>
<tr>
<td>Internet Insufficient (II)</td>
<td>508,911</td>
<td>85.2</td>
</tr>
<tr>
<td>Device Deficient (DD)</td>
<td>178,233</td>
<td>40.1</td>
</tr>
<tr>
<td>Connected, with Device (CD)</td>
<td>3,510,271</td>
<td>2,975.8</td>
</tr>
<tr>
<td>TOTAL IL Households</td>
<td>4,866,014</td>
<td>3,364.8</td>
</tr>
</tbody>
</table>

- Driven by paying $70 / month connection costs for households that are already connected
• Estimating cost of free universal broadband (long-term)
  • Estimate number of households currently lacking service:
    • FCC Form 477 data from Dec 2019 (~119,419 unserved)
    • Account for IL investments made after that time:
      • FCC Connect America Fund
      • USDA ReConnect
      • Connect IL grants
  • Estimate cost of connecting remaining unserved
    • Cost / HH from recent grant programs
    • Apply to # of HH that still lack access
• Up-front (infrastructure) cost + annual costs
• Also broken into estimates for 10 Economic Development regions

Thresholds examined:
  • 25/3
  • 25/3 (wired only)
  • 100/20

Long-term solution:
Building fixed connections to all households lacking service

RDOF Auction Awards announced 12/7/20 NOT included

FCC’s “Housing Units” ≠ ACS’ “Households”
**Longer-term Estimate of Providing Universal Access (cost of infrastructure)**

<table>
<thead>
<tr>
<th>Program</th>
<th># of Awards</th>
<th>Grant Amount</th>
<th>Match</th>
<th>HH Served</th>
<th>Cost / HH</th>
</tr>
</thead>
<tbody>
<tr>
<td>USDA ReConnect</td>
<td>7</td>
<td>89,900,000</td>
<td>-</td>
<td>25,353</td>
<td>3,546</td>
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<tr>
<td>FCC Connect America Fund</td>
<td>4</td>
<td>33,715,374</td>
<td>-</td>
<td>8,958</td>
<td>3,764</td>
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<tr>
<td>Connect Illinois</td>
<td>27</td>
<td>48,123,419</td>
<td>62,594,138</td>
<td>23,061</td>
<td>4,801</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>38</strong></td>
<td><strong>171,738,793</strong></td>
<td>62,594,138</td>
<td><strong>57,372</strong></td>
<td><strong>4,084</strong></td>
</tr>
</tbody>
</table>

- Range based on altering 2 ambitious assumptions:
  1) FCC Form 477 +20,000 HH
  2) Cost / HH + 25% ($5,105)

**Total Housing Units**

<table>
<thead>
<tr>
<th>Num</th>
<th>%</th>
<th>Num</th>
<th>%</th>
<th>Num</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 2019</td>
<td>119,419</td>
<td>2.20</td>
<td>308,554</td>
<td>5.73</td>
<td>402,730</td>
</tr>
<tr>
<td>Post-2019 Awards</td>
<td>44,420</td>
<td></td>
<td>44,420</td>
<td></td>
<td>57,372</td>
</tr>
<tr>
<td>5,387,995</td>
<td>74,999</td>
<td>1.34</td>
<td>264,134</td>
<td>4.85</td>
<td>345,358</td>
</tr>
</tbody>
</table>

**Total Housing Units**

<table>
<thead>
<tr>
<th># HH</th>
<th>Cost ($M)</th>
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<th>Cost ($M)</th>
</tr>
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<tr>
<td>5,387,995</td>
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<td>306</td>
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<td>1,079</td>
<td>345,358</td>
</tr>
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**Range for 2028 Goal of 100 / 20:**
$1.410 B - $1.865 B
Alternative Estimates from M-lab & Microsoft Data

- FCC Form 477 also criticized for only using *advertised* (not actual) speeds
- Alternative data sets that capture actual user speeds paint a very different picture
  - M-Lab
  - Microsoft

<table>
<thead>
<tr>
<th></th>
<th>FCC Original</th>
<th>FCC Adjusted</th>
<th>M-Lab</th>
<th>Microsoft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reg. ED Name</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total HH</td>
<td>5,387,995</td>
<td>74,999</td>
<td>306</td>
<td>1,085,098</td>
</tr>
<tr>
<td># HH</td>
<td>81,513</td>
<td>333</td>
<td>4,432</td>
<td>2,630,735</td>
</tr>
<tr>
<td>Cost (SM)</td>
<td>10,896</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FCC: $306M
M-lab: $4,432M
Microsoft: $10,896M
Longer-term Annual Cost of Providing Universal Access (assuming wired connectivity for all)

- Still dominated by cost of paying connection costs ($70 / month) for HH that already have access
• Estimating cost of affordable universal broadband
  • Similar methodology as short-term approach above, but considering:
    • $10 / month for all households
    • $10 / month only for low-income households
    • $25 / month for all households
    • $25 / month only for low-income households
  • Annual costs of subsidies estimated
  • Also broken into estimates for 10 Economic Development regions

Remaining costs assumed to be subsidized by Connect IL
Short-term **Affordable** Broadband for those lacking device or connection

### Consumers Pay $10 / Month:

- **$226M**

### Consumers Pay $25 / Month:

- **$704M**
- **$77M**
- **$460M**

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<td>Dish, install</td>
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</tr>
<tr>
<td>% of Segment</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td># of HH in IL</td>
<td>25,446</td>
<td>25,446</td>
</tr>
<tr>
<td>Cost / HH</td>
<td>$850 - $1,075</td>
<td>$250 - $300</td>
</tr>
<tr>
<td>Cost paid by HH ($10 / mo.)</td>
<td>$120</td>
<td>$120</td>
</tr>
<tr>
<td>Lower Bound Cost ($5M - $10)</td>
<td>18.6</td>
<td>3.3</td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Bound Cost ($5M - $10)</td>
<td>24.3</td>
<td>4.6</td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost paid by HH ($25 / mo.)</td>
<td>$300</td>
<td>$300</td>
</tr>
<tr>
<td>Lower Bound Cost ($5M - $25)</td>
<td>14.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Bound Cost ($5M - $25)</td>
<td>19.7</td>
<td>0.0</td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Short-term **Affordable** Broadband for All Households (annual costs)

Consumers Pay $10 / Month:

- $2.780B
- $3.680B

Consumers Pay $25 / Month:

- $2.000B
- $2.804B

<table>
<thead>
<tr>
<th>Category</th>
<th>Households (2019)</th>
<th>Cost of $10 / Month Access</th>
<th>Cost of $25 / Month Access</th>
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<td>4,866,014</td>
<td>2,780.9</td>
<td>3,679.9</td>
</tr>
</tbody>
</table>

- Still dominated by subsidizing costs ($70 / month) for HH that already have access
BROADBAND AFFORDABILITY STUDY

METHODOLOGY

Short-term Affordable Broadband for HH in Poverty (annual costs)

Consumers Pay $10 / Month:

- $340M
- $481M

Consumers Pay $25 / Month:

- $236M
- $364M

- Note that costs for only those without connections is significantly lower:
  - $46M for $10 / month
  - $16M for $25 / month
QUESTIONS?

Matt Schmit  |  Deputy Director
Department of Commerce & Economic Opportunity
Illinois Office of Broadband  |  broadband@Illinois.gov
NEXT MEETING
FEBRUARY 17, 2021