Rural Anchor Institution Survey Report

NTCA – THE RURAL BROADBAND ASSOCIATION

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INTRODUCTION/ SUMMARY

Background and Methodology

In May 2018, NTCA -- The Rural Broadband Association (NTCA) contracted with Association Research, Inc. (ARI),1 to analyze data from a survey of anchor institutions2 located in responding member companies’ incumbent local exchange carrier (ILEC) service areas. The survey was conducted by NTCA in September 2017 to identify the scope and scale of broadband connections provided to anchor institutions in ILEC members’ service areas. NTCA also asked ARI to compare results, where applicable, to a similar survey conducted by NTCA in September 2013.

A web link of the survey was sent out on September 7, 2017, to NTCA member companies, of which 107 companies provided usable data. Some questions in the survey, especially those about maximum and average broadband speeds, had different counts. This is due to respondents not answering all survey questions. Lastly, while the survey sample pool remained substantially the same for both the 2013 and 2017 surveys, the actual survey respondents may have changed.

Executive Summary

- The average number of anchor institutions located in the respondents’ ILEC service areas was 3.2 for public libraries, 5.9 for K–12 schools and 4.9 for health care providers. The data provided in this report do not reflect Veterans Administration (VA) facilities.
- Fiber-to-the-premise (FTTP) was the most prevalent connection mode for all anchor institution types.
- The maximum connection speed of broadband available to anchor institutions in the ILECs’ service areas averaged 454.3 Mbps for public libraries, 1156.8 Mbps for K-12 schools and 734 Mbps for medical facilities.
- The average connection speed of broadband purchased by anchor institutions in the responding companies’ ILEC service areas was the highest for K–12 schools (238.7 Mbps) and the lowest for public libraries (43.3 Mbps).
- For anchor institutions that are not connected via fiber, the average distance of those institutions from fiber facilities was 4.1 miles and the median distance was 0.6 miles. Approximately six in ten of those institutions (59.4%) are less than a mile away from fiber facilities, while just over one-third (34.4%) are located between one and twenty miles from fiber facilities.

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1 Association Research, Inc., an independent survey research organization located in Gaithersburg, Maryland, analyzed the findings and prepared this report. All responses have been kept confidential; this report does not reveal information from any individual source.

2 Anchor institutions are defined by the Federal Communications Commission (FCC) as “schools, libraries, health care providers, community colleges, other institutions of higher education, and other community support organizations and entities.”
### Anchor Institutions: 2017 Summary Table

<table>
<thead>
<tr>
<th>Number Located in ILEC Service Area</th>
<th>Public Libraries</th>
<th>K-12 Schools</th>
<th>Hospitals/Medical Clinics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>90</td>
<td>94</td>
<td>64</td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td>3.2</td>
<td>5.9</td>
<td>4.9</td>
</tr>
<tr>
<td><strong>Median</strong></td>
<td>2.0</td>
<td>3.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Percent Connected by FTTP</td>
<td><strong>Percent</strong></td>
<td>63.9</td>
<td>82.4</td>
</tr>
<tr>
<td>Mean</td>
<td>454.3</td>
<td>1156.8</td>
<td>734.0</td>
</tr>
<tr>
<td>Median</td>
<td>100.0</td>
<td>1000.0</td>
<td>1000.0</td>
</tr>
<tr>
<td>Average Speed of Broadband Available in ILEC Service Area (Mbps)</td>
<td><strong>Mean</strong></td>
<td>43.3</td>
<td>238.7</td>
</tr>
<tr>
<td>Median</td>
<td>20.0</td>
<td>100.0</td>
<td>50.0</td>
</tr>
</tbody>
</table>

### Average Distance of Non FTTP-Connected Anchor Institutions From Fiber Facilities

- **Greater than/equal to 0.5 mile but less than 1 mile**: 25.0%
- **Greater than/equal to 1 mile but less than 20 miles**: 34.4%
- **Greater than/equal to 20 miles**: 6.2%
- **Less than 0.5 mile**: 34.4%

Source: 2017 NTCA–Anchor Institution Survey
Nearly two-thirds (63.9%) of public libraries in the respondents’ ILEC service areas were connected by FTTP.

Public Libraries: Maximum Broadband Speed Available

- Greater than/equal to 1 Gig: 41.3%
- Greater than/equal to 100 Mbps but less than 1 Gig: 25.0%
- Greater than/equal to 25.0 Mbps but less than 100 Mbps: 23.9%
- Greater than/equal to 10.0 Mbps but less than 25.0 Mbps: 7.6%
- Greater than/equal to 4.0 Mbps but less than 10.0 Mbps: 1.1%
- Greater than/equal to 1.5 Mbps but less than 4.0 Mbps: 1.1%

Source: 2017 NTCA–Anchor Institution Survey

- More than four in 10 respondents (41.3%) indicated that public libraries in their ILEC service areas had access to a maximum broadband speed of 1 Gig or more. For approximately one-half of the respondents (48.9%), public libraries had maximum broadband speed available ranging from 25.0 Mbps to less than 1 Gig. A very small percentage (2.2%) reported that connected public libraries in their service areas had access to a maximum speed of less than 10.0 Mbps.

- The maximum speed of broadband available to connected public libraries averaged 454.3 Mbps (compared with 248.1 Mbps in 2013). The median maximum speed available to public libraries in 2017 was 100 Mbps.
Nearly four in 10 responding companies (37.5%) reported having public libraries in their ILEC service areas that purchased a broadband speed of greater than/equal to 10.0 Mbps but less than 25.0 Mbps, and another one-third (33.8%) reported that public libraries purchased a speed of greater than/equal to 25.0 Mbps but less than 100 Mbps. More than one-tenth (11.2%) had public libraries that purchased a broadband speed greater than/equal to 100 Mbps.

The average speed purchased by public libraries in 2017 was 43.3 Mbps (compared with 13.9 Mbps in 2013). The median speed purchased by public libraries in 2017 was 20.0 Mbps.
More than eight in 10 (82.4%) K–12 schools were connected by FTTP.

**K-12 Schools: Maximum Broadband Speed Available**

- Greater than/equal to 1 Gig: 58.7%
- Greater than/equal to 100 Mbps but less than 1 Gig: 28.3%
- Greater than/equal to 25.0 Mbps but less than 100 Mbps: 8.7%
- Greater than/equal to 10.0 Mbps but less than 25.0 Mbps: 4.3%
- Greater than/equal to 4.0 Mbps but less than 10.0 Mbps: 0.0%
- Greater than/equal to 1.5 Mbps but less than 4.0 Mbps: 0.0%

Source: 2017 NTCA–Anchor Institution Survey

- Almost three-fifths of responding companies (58.7%) reported that K–12 schools in their ILEC service areas had access to a maximum broadband speed of 1 Gig or more, and more than one-quarter (28.3%) indicated that the K–12 schools had access to a broadband speed of greater than/equal to 100 Mbps but less than 1 Gig. The slowest maximum speed available to connected K–12 schools, as reported by 4.3% of responding companies, was greater than/equal to 10.0 Mbps but less than 25.0 Mbps.

<table>
<thead>
<tr>
<th>Average Maximum Speed of Broadband Available (1,000 Mbps = 1 Gig)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>912.2 Mbps</strong> 2013</td>
</tr>
<tr>
<td><strong>1156.8 Mbps</strong> 2017</td>
</tr>
</tbody>
</table>

- The maximum broadband speed available to K–12 schools in the respondents’ ILEC service areas was 1156.8 Mbps in 2017 (compared with 912.2 Mbps in 2013). The median maximum speed available to K–12 schools in 2017 was 1 Gig.
More than one-half of the respondents (54.5%) had K–12 schools in their service areas that purchased an average speed of broadband that is greater than/equal to 100 Mbps but less than 1 Gig, while just over one-quarter (26.0%) indicated that K–12 schools in their ILEC service areas purchased the third-highest speed tier (greater than/equal to 25.0 Mbps but less than 100 Mbps). Only one-tenth of responding companies reported having K–12 schools that subscribed to the highest speed tier of broadband connection (greater than/equal to 1 Gig).

The average speed purchased by K–12 schools was 238.7 Mbps in 2017 (compared with 128.4 Mbps in 2013), and the median speed purchased by K–12 schools in 2017 was 100 Mbps.
HOSPITALS AND MEDICAL CLINICS

Three-quarters of hospitals and medical clinics (75.9%) were connected by FTTP.

Hospitals and Medical Clinics: Maximum Broadband Speed Available

<table>
<thead>
<tr>
<th>Speed Range</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater than/equal to 1 Gig</td>
<td>55.6%</td>
</tr>
<tr>
<td>Greater than/equal to 100 Mbps but less than 1 G</td>
<td>22.2%</td>
</tr>
<tr>
<td>Greater than/equal to 25.0 Mbps but less than 100 Mbps</td>
<td>15.9%</td>
</tr>
<tr>
<td>Greater than/equal to 10.0 Mbps but less than 25.0 Mbps</td>
<td>6.3%</td>
</tr>
<tr>
<td>Greater than/equal to 4.0 Mbps but less than 10.0 Mbps</td>
<td>0.0%</td>
</tr>
<tr>
<td>Greater than/equal to 1.5 Mbps but less than 4.0 Mbps</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Source: 2017 NTCA–Anchor Institution Survey

More than half of the responding companies (55.6%) had hospitals and medical clinics in their ILEC service areas with access to a maximum broadband speed of 1 Gig or more, and about one-fifth (22.2%) reported that hospitals and medical clinics in their ILEC service areas had access to a maximum speed greater than/equal to 100 Mbps but less than 1 Gig. The slowest maximum broadband speed available to connected health care providers, as reported by 6.3% of respondents, was greater than/equal to 10.0 Mbps but less than 25.0 Mbps.

Average Maximum Speed of Broadband Available

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>393.8 Mbps</td>
</tr>
<tr>
<td>2017</td>
<td>734.0 Mbps</td>
</tr>
</tbody>
</table>

In 2017, the maximum speed of broadband available to hospitals and medical clinics in the responding companies’ ILEC service areas averaged 734.0 Mbps (compared with 393.8 Mbps in 2013). The median maximum speed available to hospitals and medical clinics in 2017 was 1 Gig.
Hospitals and Medical Clinics: Average Broadband Speed Purchased

- Greater than/equal to 1 Gig: 7.0%
- Greater than/equal to 100 Mbps but less than 1 Gig: 33.3%
- Greater than/equal to 25.0 Mbps but less than 100 Mbps: 31.6%
- Greater than/equal to 10.0 Mbps but less than 25.0 Mbps: 19.3%
- Greater than/equal to 4.0 Mbps but less than 10.0 Mbps: 7.0%
- Greater than/equal to 1.5 Mbps but less than 4.0 Mbps: 1.8%

Source: 2017 NTCA–Anchor Institution Survey

- Just under one-third of respondents reported that hospitals and medical clinics in their service areas purchased an average broadband speed of greater than/equal to 25.0 Mbps but less than 100 Mbps while another third indicated that health care providers purchased an average broadband speed of greater than/equal to 100 Mbps but less than 1 Gig. Almost one-fifth (19.3%) reported that hospitals and medical clinics purchased an average speed ranging from greater than/equal to 10.0 Mbps but less than 25.0 Mbps.

<table>
<thead>
<tr>
<th>16.3 Mbps</th>
<th>Average Speed of Broadband Purchased</th>
<th>128.7 Mbps</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td></td>
<td>2017</td>
</tr>
</tbody>
</table>

- The average speed purchased by hospitals and medical clinics in 2017 was 128.7 Mbps (compared with 16.3 Mbps in 2013), and the median speed purchased was 50.0 Mbps.