AGENDA

• Welcome – Elmore County Chief Operations Officer
  Richie Beyer
  – Background Information
  – Broadband Study
  – Partnerships

• Jim Meads, President/CEO, Sain Associates
  – Feasibility Study
  – Project Implementation Plan
  – Education Hotspots

• Tom Stackhouse, President/CEO, CAEC and Central Access
  – CAEC Overview
  – Emergence of Central Access
  – Serving the Community with Broadband

• Closing and Q&A – Panel
“Access to broadband is as important as roadway infrastructure. We see access to broadband as a major component of our economic development planning for Elmore County.”
COMMUNITY BROADBAND SURVEY

- Survey asked about the following:
  - Address
  - Level of Service Feedback
  - Internet Speed Test for Each Location
  - Broadband Availability
- In addition to the survey, we obtained GIS data from the revenue commissioner’s office and the Board of Education.
EXPANDING BROADBAND SERVICE

- Central Alabama Electric Cooperative (CAEC) recently formed Central Access to provide broadband service.
- Initial project plans included installing a fiber ring connecting the substations and offices and using the data from our Broadband Accessibility Study.
- To pinpoint the proper location of hotspots, the Board of Education provided bus route information showing students’ population density along the routes throughout the county.
PARTNERSHIPS
FEASIBILITY STUDY

Community Broadband Survey data was given to Sain Associates, and they created a Broadband Feasibility Study.

Objectives of the Study:
1. Define clear broadband coverage goals and benchmarks.
2. Document existing broadband infrastructure and coverage areas.
3. Develop a plan for addressing gaps in broadband service.
4. Develop short and long-term recommendations.
5. Compile information needed to apply for grant and/or other funding.
PLANNING FUNDING

• Economic Development Authority
• Contribution by County and City organizations in a collaboration
• Grant funded through a Regional Planning Organization
ORIGINAL MAP OF BROADBAND SERVICE PROVIDERS
RECOMMENDATIONS/PROJECTED PROVIDER COUNTS
## STATISTICAL PROJECTIONS IN SERVICE

<table>
<thead>
<tr>
<th>Area of Coverage</th>
<th>Current</th>
<th>5-Year Projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Providers</td>
<td>17.4%</td>
<td>5.8%</td>
</tr>
<tr>
<td>1 Provider</td>
<td>25.6%</td>
<td>24.5%</td>
</tr>
<tr>
<td>2 or more Providers</td>
<td>51.6%</td>
<td>64.3%</td>
</tr>
<tr>
<td>Lakes and Rivers</td>
<td>5.4%</td>
<td>5.4%</td>
</tr>
</tbody>
</table>
Based on the Broadband Feasibility Study, potential projects were analyzed with cost estimated and prioritized into an implementation plan that would meet the County goals and objectives.

Objectives of the Study:
1. Determine parameters for analysis.
2. Develop detailed project areas.
3. Develop budgetary cost estimates.
4. Prioritize into a 5-year implementation plan.
PARAMETERS FOR ANALYSIS

- Number of potential customers
- Type of potential customer (residential vs. commercial)
- Number of potential school students to be served
- Amount of unserved or underserved area addressed by the project
- Total cost of the project
- Cost per potential customer

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Fiber Source</th>
<th>All Potential New Customers</th>
<th>Students in Proposed Service Area</th>
<th>Unserved Area Mitigated (sq.mi.)</th>
<th>Under-Served Area Mitigated (sq.mi.)</th>
<th>Service Area Coverage (sq.mi.)</th>
<th>Population Density per Sq. Mi.</th>
<th>Miles of Fiber</th>
<th>Equip. for Existing Tower</th>
<th>Cost of Existing Tower</th>
<th>New Fixed Wireless Towers</th>
<th>Cost of New Tower</th>
<th>Construction Cost Estimate</th>
<th>Tie-On Cost 100% Opt-In</th>
<th>Total Cost at 100% Opt-In</th>
<th>Cost per Potential Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atkins Hill Fiber</td>
<td>CA</td>
<td>430</td>
<td>252</td>
<td>6.1</td>
<td>6.1</td>
<td>9.8</td>
<td>216.8</td>
<td>9.7</td>
<td>$509,250.00</td>
<td>0</td>
<td>$0</td>
<td>0</td>
<td>$509,250.00</td>
<td>2.150,000.00</td>
<td>2.150,000.00</td>
<td>$6,184.30</td>
</tr>
<tr>
<td>Weoka FW***</td>
<td>CA</td>
<td>290</td>
<td>137</td>
<td>23.4</td>
<td>34.9</td>
<td>32.6</td>
<td>26.8</td>
<td>0.0</td>
<td>$ 500,000.00</td>
<td>2</td>
<td>$207,500.00</td>
<td>1</td>
<td>$207,500.00</td>
<td>272,500.00</td>
<td>272,500.00</td>
<td>$2,189.66</td>
</tr>
<tr>
<td>Deatsville FW</td>
<td>UNI</td>
<td>290</td>
<td>571</td>
<td>3.2</td>
<td>10.3</td>
<td>13.5</td>
<td>59.6</td>
<td>0.0</td>
<td>$ 32,500.00</td>
<td>1</td>
<td>$207,500.00</td>
<td>1</td>
<td>$207,500.00</td>
<td>240,000.00</td>
<td>240,000.00</td>
<td>$2,077.59</td>
</tr>
<tr>
<td>Atkins Hills Fiber</td>
<td>CA</td>
<td>385</td>
<td>401</td>
<td>0.3</td>
<td>5.7</td>
<td>8.9</td>
<td>188.7</td>
<td>1.0</td>
<td>$52,500.00</td>
<td>1</td>
<td>$32,500.00</td>
<td>0</td>
<td>$85,000.00</td>
<td>231,250.00</td>
<td>231,250.00</td>
<td>$1,709.46</td>
</tr>
<tr>
<td>Lightfoot WW**</td>
<td>UNI or CA</td>
<td>274</td>
<td>103</td>
<td>3.3</td>
<td>7.0</td>
<td>13.5</td>
<td>58.9</td>
<td>0.0</td>
<td>$ 32,500.00</td>
<td>1</td>
<td>$32,500.00</td>
<td>0</td>
<td>$65,000.00</td>
<td>316,250.00</td>
<td>316,250.00</td>
<td>$2,007.30</td>
</tr>
<tr>
<td>Salm Rd Fiber</td>
<td>CA</td>
<td>136</td>
<td>34</td>
<td>1.8</td>
<td>4.8</td>
<td>10.3</td>
<td>78.3</td>
<td>4.1</td>
<td>$215,250.00</td>
<td>0</td>
<td>$0</td>
<td>0</td>
<td>$215,250.00</td>
<td>680,000.00</td>
<td>680,000.00</td>
<td>$5,682.72</td>
</tr>
<tr>
<td>Weoka FW</td>
<td>CA</td>
<td>260</td>
<td>105</td>
<td>21.2</td>
<td>12.6</td>
<td>33.1</td>
<td>28.6</td>
<td>3.4</td>
<td>$178,500.00</td>
<td>1</td>
<td>$32,500.00</td>
<td>1</td>
<td>$207,500.00</td>
<td>418,500.00</td>
<td>418,500.00</td>
<td>$2,859.62</td>
</tr>
<tr>
<td>Gooseneck River FW</td>
<td>CA</td>
<td>228</td>
<td>117</td>
<td>12.6</td>
<td>24.8</td>
<td>25.4</td>
<td>24.0</td>
<td>3.2</td>
<td>$168,000.00</td>
<td>1</td>
<td>$32,500.00</td>
<td>1</td>
<td>$207,500.00</td>
<td>408,000.00</td>
<td>408,000.00</td>
<td>$3,099.47</td>
</tr>
<tr>
<td>Wico FW</td>
<td>CA</td>
<td>217</td>
<td>135</td>
<td>18.8</td>
<td>16.8</td>
<td>38.6</td>
<td>22.2</td>
<td>0.3</td>
<td>$ 5,250.00</td>
<td>1</td>
<td>$32,500.00</td>
<td>3</td>
<td>$622,500.00</td>
<td>660,500.00</td>
<td>660,500.00</td>
<td>$3,473.06</td>
</tr>
<tr>
<td>Jackson Lake FW</td>
<td>UNI</td>
<td>192</td>
<td>220</td>
<td>3.3</td>
<td>2.5</td>
<td>6.5</td>
<td>82.3</td>
<td>0.0</td>
<td>$  0.0000</td>
<td>0</td>
<td>$  0.0000</td>
<td></td>
<td>$  0.0000</td>
<td>207,500.00</td>
<td>207,500.00</td>
<td>$2,330.73</td>
</tr>
<tr>
<td>Wico FF</td>
<td>CA</td>
<td>290</td>
<td>98</td>
<td>28.8</td>
<td>14.6</td>
<td>36.4</td>
<td>22.7</td>
<td>0.1</td>
<td>$ 5,250.00</td>
<td>0</td>
<td>$  0.0000</td>
<td>3</td>
<td>$622,500.00</td>
<td>362,500.00</td>
<td>362,500.00</td>
<td>$3,414.66</td>
</tr>
<tr>
<td>Ridgley Fiber</td>
<td>CA</td>
<td>131</td>
<td>56</td>
<td>11.4</td>
<td>4.3</td>
<td>15.7</td>
<td>47.7</td>
<td>9.9</td>
<td>$519,750.00</td>
<td>0</td>
<td>$  0.0000</td>
<td>0</td>
<td>$519,750.00</td>
<td>655,000.00</td>
<td>655,000.00</td>
<td>$8,967.56</td>
</tr>
<tr>
<td>Redland Fiber</td>
<td>CA</td>
<td>131</td>
<td>48</td>
<td>3.3</td>
<td>1.2</td>
<td>8.4</td>
<td>82.5</td>
<td>5.7</td>
<td>$269,750.00</td>
<td>0</td>
<td>$  0.0000</td>
<td>0</td>
<td>$269,750.00</td>
<td>299,750.00</td>
<td>299,750.00</td>
<td>$7,284.35</td>
</tr>
<tr>
<td>HW 231 Fiber</td>
<td>CA</td>
<td>63</td>
<td>32</td>
<td>1.6</td>
<td>4.1</td>
<td>6.1</td>
<td>74.1</td>
<td>4.1</td>
<td>$215,250.00</td>
<td>0</td>
<td>$  0.0000</td>
<td>0</td>
<td>$215,250.00</td>
<td>315,250.00</td>
<td>315,250.00</td>
<td>$8,416.67</td>
</tr>
<tr>
<td>Wico Fiber</td>
<td>CA</td>
<td>107</td>
<td>29</td>
<td>7.5</td>
<td>2.4</td>
<td>10.2</td>
<td>56.9</td>
<td>5.8</td>
<td>$304,500.00</td>
<td>0</td>
<td>$  0.0000</td>
<td>0</td>
<td>$304,500.00</td>
<td>358,500.00</td>
<td>358,500.00</td>
<td>$2,845.79</td>
</tr>
<tr>
<td>Titan WW**</td>
<td>CA</td>
<td>97</td>
<td>44</td>
<td>9.1</td>
<td>5.3</td>
<td>14.4</td>
<td>16.2</td>
<td>0.0</td>
<td>$  0.0000</td>
<td>1</td>
<td>$32,500.00</td>
<td>1</td>
<td>$32,500.00</td>
<td>212,500.00</td>
<td>212,500.00</td>
<td>$3,724.23</td>
</tr>
<tr>
<td>Buick Fiber</td>
<td>CA</td>
<td>44</td>
<td>24</td>
<td>3.2</td>
<td>0.8</td>
<td>4.0</td>
<td>53.3</td>
<td>4.5</td>
<td>$216,250.00</td>
<td>0</td>
<td>$  0.0000</td>
<td>0</td>
<td>$216,250.00</td>
<td>236,250.00</td>
<td>236,250.00</td>
<td>$10,369.32</td>
</tr>
<tr>
<td>Edcote WW</td>
<td>WS</td>
<td>95</td>
<td>355</td>
<td>0.9</td>
<td>4.7</td>
<td>5.6</td>
<td>27.7</td>
<td>0.5</td>
<td>$26,250.00</td>
<td>1</td>
<td>$32,500.00</td>
<td>1</td>
<td>$59,000.00</td>
<td>266,250.00</td>
<td>266,250.00</td>
<td>$4,052.63</td>
</tr>
<tr>
<td>Talassaee WW</td>
<td>CA</td>
<td>53</td>
<td>1</td>
<td>0.2</td>
<td>8.9</td>
<td>9.2</td>
<td>11.5</td>
<td>0.6</td>
<td>$31,500.00</td>
<td>0</td>
<td>$  0.0000</td>
<td>1</td>
<td>$31,500.00</td>
<td>239,500.00</td>
<td>239,500.00</td>
<td>$5,759.43</td>
</tr>
<tr>
<td>Totals*</td>
<td></td>
<td>2732</td>
<td>1563</td>
<td>114.4</td>
<td>106.3</td>
<td>241.6</td>
<td>52.7</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
DETAILED PROJECT MAP

Legend
- Prospective Customer
  - Served by CAEC Project
  - Potential New Customer
- Fiber Route Recommendation
- Recommended Fiber 2,000' Buffer
- Central Access Fiber Backbone
- CAEC Backbone 2,000' Buffer
- Impact Service Areas
- Parcel Boundary

107 Prospective Customers
10.2 Sq.Mi. of Service Area

Proposed 5.8 miles Fiber Extension

Weoka Fiber Project Area
Broadband Project Analysis
Elmore County, Alabama
## PROJECT IMPLEMENTATION PLAN

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Estimated Construction Cost</th>
<th>Population Served</th>
<th>Annual Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atkin Hill (Fiber Option)</td>
<td>$611,100.00</td>
<td>2,931</td>
<td>$869,400.00</td>
</tr>
<tr>
<td>Balm Road Fiber</td>
<td>$258,300.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Year 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weoka Fixed Wireless (Option B)</td>
<td>$327,000.00</td>
<td>1,496</td>
<td>$816,600.00</td>
</tr>
<tr>
<td>Coosa River Fixed Wireless</td>
<td>$489,600.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Year 3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deatsville Fixed Wireless</td>
<td>$288,000.00</td>
<td>2,032</td>
<td>$896,100.00</td>
</tr>
<tr>
<td>Jackson Lake Fixed Wireless</td>
<td>$249,000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redland Fiber</td>
<td>$359,100.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Year 4</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ware Fixed Wireless (Option A)</td>
<td>$792,300.00</td>
<td>855</td>
<td>$792,300.00</td>
</tr>
<tr>
<td><strong>Year 5</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riddle Fiber</td>
<td>$623,700.00</td>
<td>1,201</td>
<td>$882,000.00</td>
</tr>
<tr>
<td>Highway 231 Fiber</td>
<td>$258,300.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Project Implementation</strong></td>
<td></td>
<td>8,515</td>
<td>$4,256,400.00</td>
</tr>
</tbody>
</table>
EDUCATION HOTSPOTS

Immediate need for public broadband access for school students due to COVID-19 pandemic.

Objectives of the Study:
1. Identify concentrations of students in unserved and underserved areas.
2. Identify optimal hotspot locations in relation to new Central Access fiber and high student needs.
3. Develop public interactive map to help people locate the nearest hotspot.
BOARD OF EDUCATION INTERACTIVE HOT SPOT MAP
ADDITIONAL BENEFITS

There were numerous unintended benefits resulting from the study and implementation of the education hotspots.

• Community access to broadband to the public at large at no cost
• The ability for the community to access telehealth/telemedicine services
• The ability for citizens to access unemployment filing and workforce development
• Provide broadband access to students for remote post-secondary schooling
• The ability for limited telework situations
2021 ACCMA Winter Conference
Planning for the Future in the New Normal

CENTRAL ALABAMA ELECTRIC COOPERATIVE & CENTRAL ACCESS

TOM STACKHOUSE, PRESIDENT/CEO
CENTRAL ALABAMA ELECTRIC COOPERATIVE

- $300 million in Assets
- Serving in 10 counties
- 45,000 services (100,000+ people)
- 6,000+ miles of energized line
- 5,000 square miles of area
- 130 employees
RURAL ELECTRIFICATION

• Level the playing field for rural communities
• Quality of technology is a huge part
• Broadband driving people and business locations
• Will they stay and can they work remotely
BUSINESS PLAN

The Vision – Rural Connectivity
- Initially construct a 383-mile core ring to meet CAEC needs
- Explored feasibility to offer broadband to members
- Researched partnerships to provide service

The Result
- CAEC created Central Access (CA) to offer broadband services
- CA leases fiber, workforce and management services from CAEC
IMPLEMENTATION

• Construction of the core ring began in August of 2019.
• CAEC has continued to expand employee capacity and skills in order to lease the necessary workforce to operate Central Access.
• The CAEC reputation quickly branded Central Access as a reputable fiber provider.
• $27.775 million in federal and state grants have been applied for and awarded.
CORE RING & CAEC FACILITIES
FIRST GRANT

• Appalachian Regional Commission (ARC)
  • Federal Funding
  • Coosa County
  • $324,362 total project
  • 69 households
  • One business
SECOND SET OF GRANTS

- Alabama Department of Economic and Community Affairs (ADECA)
  - 8 separate grants
  - 35% funded ($4.1 million)
  - Match - $7.6 million
  - 4,545 households
  - 220 businesses
  - 41 community anchors
THIRD GRANT AWARD

• USDA ReConnect
• One Grant – 11 areas
• 75% funded ($8.6 million)
• Match - $2.8 million
• 3,080 households & businesses
FOURTH GRANT AWARD

- Rural Digital Opportunity Fund (RDOF)
  - FCC
  - 30 Census Block Groups
  - $14.875 million (over 10 years)
ALL GRANT AWARDS

ARC Grant - $200,000
ADECA Grants - $4,100,000
ReConnect Grant - $8,600,000
RDOF - $14,875,000

TOTAL - $27,775,000
REMINDEES

• 6,000+ miles of line; it takes time to build new broadband infrastructure; currently building ~80 mi/month
• Orange-lined areas are outside of CAEC’s service territory (APCo)
• Central Access will be able to serve outside of CAEC service area — eventually
## Residential Pricing

For Symmetrical Speeds

<table>
<thead>
<tr>
<th>Speeds up to</th>
<th>Price:</th>
<th>Take Rates:</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 Mbps</td>
<td>$59.99</td>
<td>74%</td>
</tr>
<tr>
<td>500 Mbps</td>
<td>$79.99</td>
<td>15%</td>
</tr>
<tr>
<td>1 Gb</td>
<td>$99.99</td>
<td>11%</td>
</tr>
<tr>
<td>Misc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In Home WiFi</td>
<td>$5.00</td>
<td>77%</td>
</tr>
<tr>
<td>Phone</td>
<td>$19.99</td>
<td>15%</td>
</tr>
</tbody>
</table>
WHY DID WE DO THIS?

Although education, telehealth and economic development have historically been challenges for rural Alabama, COVID has shown us Broadband is crucial because connectivity is necessary for communities to survive!
Thank you to the Elmore County Commission!

- You recognized the County’s need.
- You had a vision.
- You created a plan.
- You sought partnerships to help reach the goal.
WHAT CAN YOU DO?

Have a Vision for the Future

• Create a Team of Community Partners
• Map Broadband Infrastructure
• Prioritize Economic Development Areas
• Invest in Broadband Partnerships/Bring Others to the Table
• Advocate for Grants
• Promote Rural Equality
2021 ACCMA Winter Conference
Planning for the Future in the New Normal

QUESTIONS?
THANK YOU

County Engineer Richie Beyer
Elmore County
334-567-1159
wrbechd@elmoreco.org